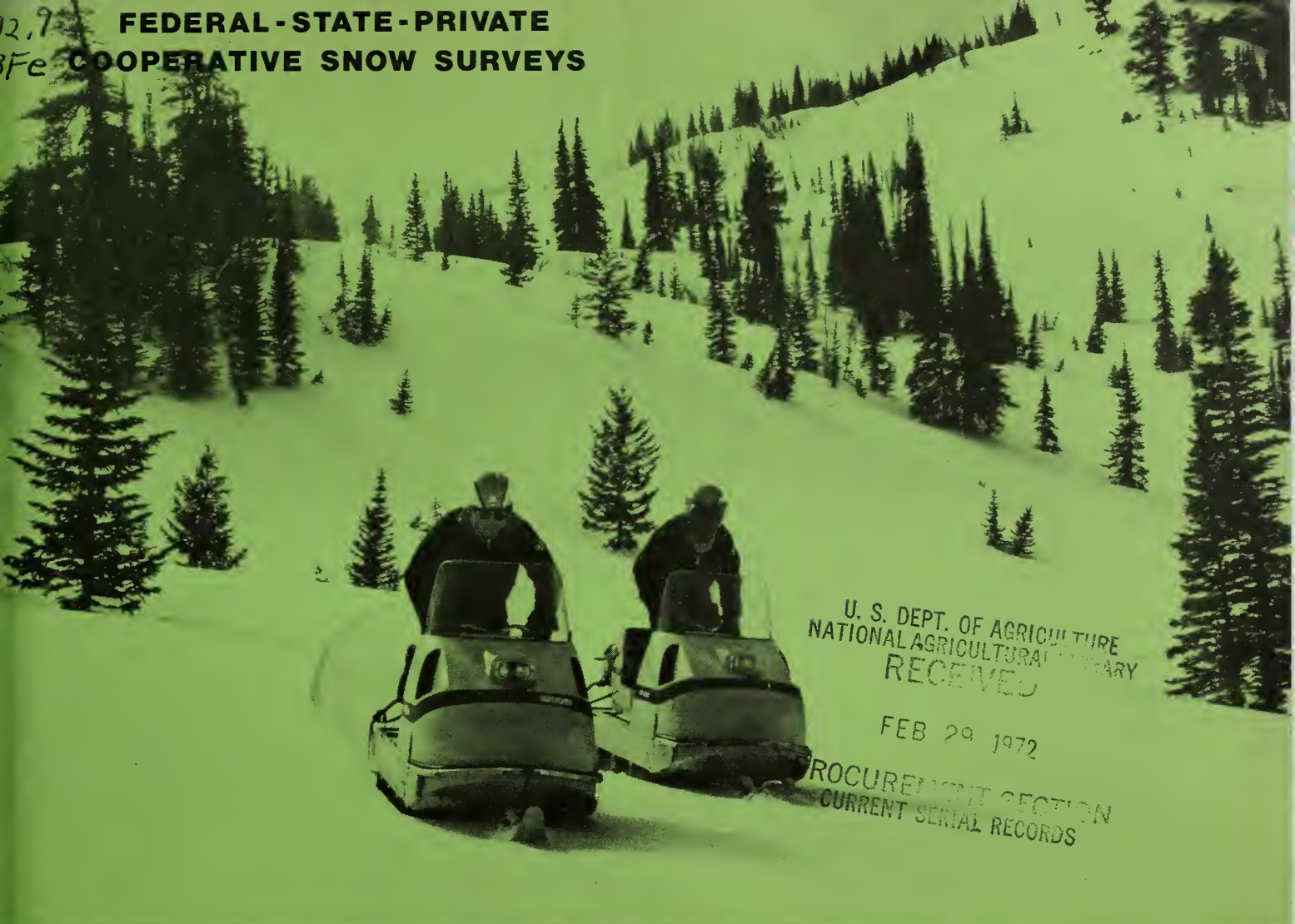


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PROCUREMENT SECTION
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WATER SUPPLY OUTLOOK FOR WASHINGTON

Prepared by

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

Data included in this report were obtained by the agencies named above in cooperation with the U.S. Forest Service, U.S. Geological Survey, National Park Service, and other Federal, State and Private organizations.

AS OF
FEB. 1, 1972

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters of key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO NUMBER ORC 221-3

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

| STATE | ADDRESS |
|--------------------|---|
| Alaska | P. O. Box "F", Palmer, Alaska 99645 |
| Arizona | 6029 Federal Building, Phoenix, Arizona 85025 |
| Colorado (N. Mex.) | P. O. Box 17107, Denver, Colorado 80217 |
| Idaho | Room 345, 304 N. 8th. St., Boise, Idaho 83702 |
| Montana | P. O. Box 970, Bozeman, Montana 59715 |
| Nevada | P. O. Box 4850, Reno Nevada 89505 |
| Oregon | 1218 S. W. Washington St., Portland, Oregon 97205 |
| Utah | 4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84111 |
| Washington | 360 U.S. Court House, Spokane, Washington 99201 |
| Wyoming | P. O. Box 2440, Casper, Wyoming 82601 |

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR WASHINGTON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

KENNETH E. GRANT
ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D.C.

|||||

Released by

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SPOKANE, WASHINGTON

In Cooperation with

JOHN A. BIGGS
DIRECTOR
DEPARTMENT OF ECOLOGY
STATE OF WASHINGTON

|||||

Report prepared by

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360 U.S. COURTHOUSE
SPOKANE, WASHINGTON 99201

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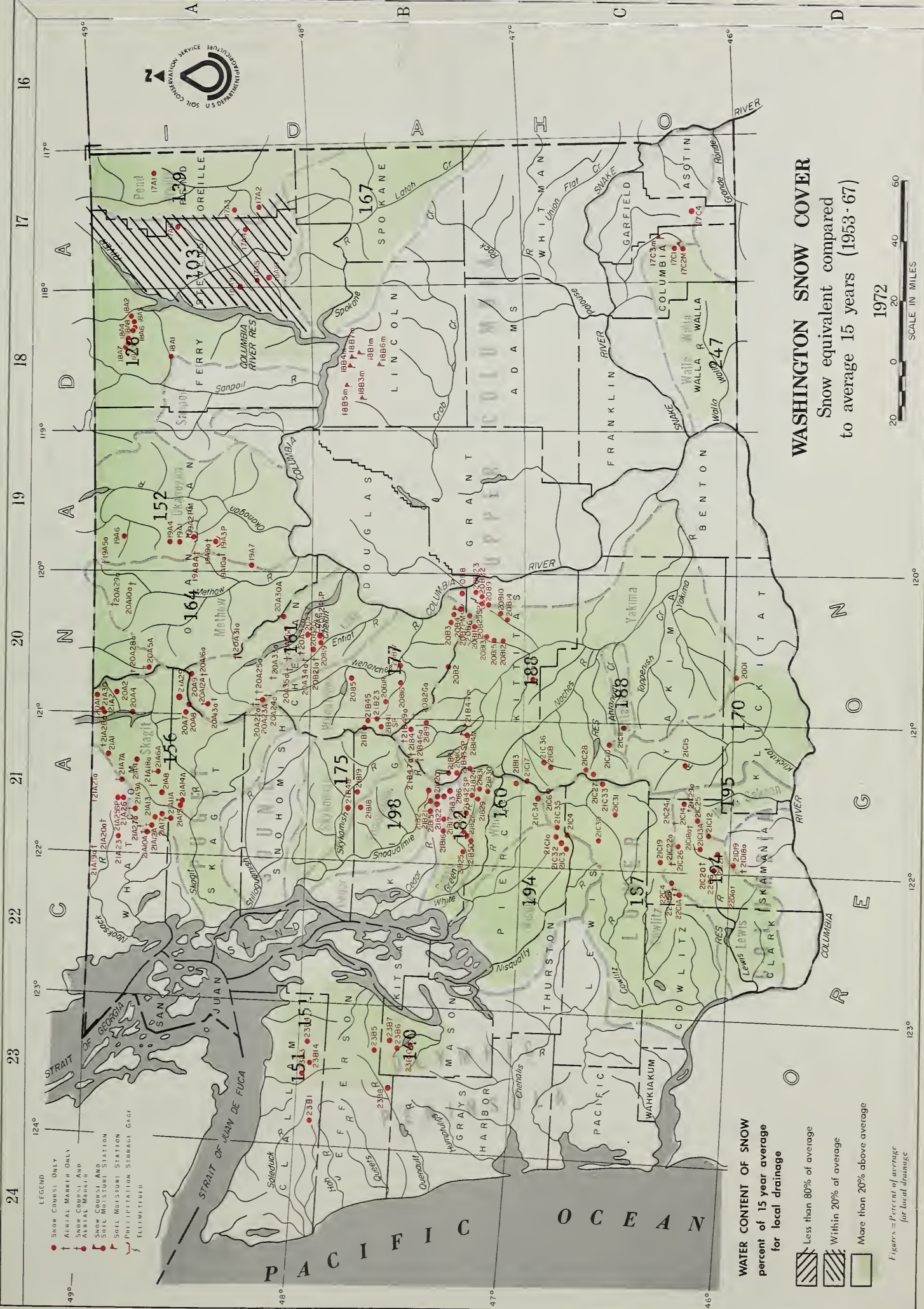
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INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

NAME NUMBER SEC. TWP. RANGE ELEV.

UPPER COLUMBIA DRAINAGE

| | | | | | |
|---|-------|----|-----|-----|------|
| Boyer Mountain Bunchgrass Meadow Winchester Creek | 17A2 | 24 | 37N | 43E | 5250 |
| | 17A1 | 24 | 37N | 44E | 5000 |
| | 17A3 | 30 | 33N | 43E | 2970 |
| Kettle River | 18A2 | 36 | 39N | 36E | 1450 |
| | 18A3 | 28 | 39N | 35E | 4070 |
| | 18A4 | 5 | 38N | 36E | 3170 |
| Boulder Road | 18A8 | 26 | 39N | 35E | 3595 |
| | 18A5 | 3 | 38N | 36E | 2150 |
| | 18A6 | 5 | 38N | 36E | 2720 |
| Summit G. S. | 18A7 | 20 | 39N | 35E | 4600 |
| Colville River | 17A6 | 19 | 36N | 42E | 3215 |
| | 18A9 | 34 | 32N | 38E | 2885 |
| | 17A4 | 11 | 32N | 41E | 4925 |
| Stranger Mountain | 17A5 | 26 | 31N | 38E | 4990 |
| Togo | 18A10 | 6 | 29N | 38E | 3370 |

| | | | | | |
|--------------------|------|----|-----|-----|------|
| Sherman Creek Pass | 18A1 | 19 | 36N | 35E | 5350 |
|--------------------|------|----|-----|-----|------|

Okanogan River

| | | | | | |
|--------------------|--------|----|-----|-----|------|
| Clark | 19A8a | 2 | 36N | 23E | 7000 |
| Muckamuck | 19A9a | 20 | 36N | 24E | 6750 |
| Mutton Creek No. 1 | 19A1 | 30 | 37N | 24E | 5700 |
| Mutton Creek No. 2 | 19A4 | 19 | 37N | 24E | 6000 |
| Paysayten | 20A28a | 32 | 40N | 18E | 4300 |
| Rusky Creek | 19A3P | 18 | 35N | 24E | 4000 |
| Salmon Meadows | 19A2PM | 33 | 37N | 24E | 4500 |
| Starvation Mtn. | 19A10a | 15 | 35N | 23E | 6750 |
| Touts Coulee | 19A6 | 30 | 39N | 25E | 2845 |

Methow River

| | | | | | |
|-----------------|--------|----|-----|-----|------|
| Billy Goat Pass | 20A10a | 10 | 38N | 20E | 6400 |
| Dollar Watch | 20A29a | 8 | 39N | 20E | 7000 |
| Harts Pass | 20A5A | 7 | 37N | 18E | 6500 |
| Horseshoe Basin | 19A5A | 15 | 40N | 23E | 7000 |
| Loup Loup | 19A7 | 36 | 34N | 23E | 4650 |

Chelan Lake Basin

| | | | | | |
|------------------|--------|----|-----|-----|------|
| Cloudy Pass | 20A22a | 3 | 31N | 15E | 6500 |
| Greenwood Flat | 20A25a | 12 | 31N | 16E | 3540 |
| Little Meadows | 20A24a | 8 | 31N | 16E | 5275 |
| Lyman Lake | 20A23a | 18 | 31N | 16E | 5900 |
| Park Creek Flat | 20A13a | 18 | 34N | 16E | 2220 |
| Park Creek Ridge | 20A12a | 7 | 34N | 16E | 4600 |
| Petersons | 20A16a | 3 | 34N | 17E | 3730 |
| Rainy Pass | 20A9 | 21 | 35N | 17E | 4780 |
| Safety Harbor | 20A30a | 32 | 31N | 20E | 6300 |
| War Creek Pass | 20A31a | 34 | 33N | 18E | 6500 |

Entiat River

| | | | | | |
|--------------------|---------|----|-----|-----|------|
| Brief | 20B19 | 34 | 28N | 19E | 1600 |
| Entiat Meadows | 20A33a | 28 | 31N | 17E | 4800 |
| Entiat River Trail | 20A34a | 2 | 29N | 17E | 3150 |
| Fox Camp | 20A36a | 17 | 30N | 18E | 6510 |
| Pope Ridge | 20B20 | 22 | 29N | 18E | 4300 |
| Pope Ridge | 20B24SP | 22 | 29N | 18E | 4300 |
| Pugh Ridge | 20A32a | 34 | 30N | 18E | 6400 |
| Shady Pass | 20A37 | 20 | 29N | 19E | 6200 |
| Snow Brushy | 20A35a | 21 | 30N | 17E | 3850 |
| Tommy Creek | 20B21a | 10 | 28N | 18E | 5300 |

Wenatchee River

| | | | | | |
|------------------------|---------|----|-----|-----|------|
| Berne-Mill Creek | 21B23 | 7 | 26N | 15E | 2925 |
| Berne-Mill Creek (New) | 21B4SP | 13 | 26N | 14E | 3240 |
| Blewett Pass No. 2 | 20B2 | 35 | 22N | 17E | 4270 |
| Chiwaukum G. S. | 20B16 | 4 | 25N | 17E | 1810 |
| Lake Wenatchee | 20B5 | 33 | 27N | 17E | 1970 |
| Leavenworth R. S. | 20B17 | 1 | 24N | 17E | 1127 |
| Merritt | 20B18 | 4 | 26N | 16E | 2140 |
| Stevens Pass | 21B1 | 14 | 26N | 13E | 4070 |
| Stevens Pass Sand Shed | 21B45 | 12 | 26N | 19E | 3700 |
| Trough #2 | 20B25SP | 10 | 20N | 20E | 5310 |

NAME NUMBER SEC. TWP. RANGE ELEV.

Colocolum Creek

| | | | | | |
|-----------------------|-------|----|-----|-----|------|
| Colocolum Creek Upper | 20B22 | 11 | 20N | 20E | 5300 |
| Colocolum Creek Lower | 20B23 | 1 | 20N | 20E | 4300 |
| Squillchuck Creek | 20B3 | 12 | 21N | 19E | 4400 |
| | 20B4 | 18 | 21N | 20E | 3400 |
| | 20B5 | 12 | 21N | 19E | 4400 |

Stemilt Creek

| | | | | | |
|---------------|--------|----|-----|-----|------|
| Jump-Off | 20B8 | 34 | 21N | 20E | 4450 |
| Stemilt Slide | 20B6 | 30 | 21N | 20E | 5000 |
| Upper Wheeler | 20B7PM | 30 | 21N | 20E | 4400 |

Crab Creek

| | | | | | |
|--------------|-------|----|-----|-----|------|
| Crabton-Kunz | 18B1m | 32 | 27N | 34E | 2440 |
| Jack Woods | 18B3m | 28 | 27N | 31E | 2750 |
| Krause | 18B4m | 21 | 27N | 32E | 2420 |
| Sheffels | 18B5m | 17 | 27N | 32E | 2378 |
| Sherman | 18B7m | 24 | 27N | 33E | 2440 |
| Wheatridge | 18B6m | 24 | 25N | 32E | 2290 |

Yakima River

| | | | | | |
|-------------------------|--------|----|-----|-----|------|
| Ahtanum R. S. | 21C11 | 26 | 12N | 14E | 3100 |
| Big Boulder Creek | 21B9 | 35 | 23N | 14E | 3200 |
| Bumping Lake | 21C8 | 23 | 16N | 12E | 3450 |
| Bumping Lake New | 21C36 | 13 | 16N | 12E | 3400 |
| Colocolum Pass | 20B9 | 25 | 20N | 20E | 5370 |
| Cooke Creek | 20B10 | 17 | 19N | 20E | 4123 |
| Omercy Flat | 21B44m | 15 | 20N | 14E | 2200 |
| Fish Lake | 21B4 | 34 | 21N | 14E | 3571 |
| Green Lake | 20B11 | 3 | 12N | 13E | 6000 |
| Grouse Camp | 20B11 | 29 | 21N | 19E | 5385 |
| High Creek | 20B12 | 34 | 20N | 19E | 2930 |
| Joe Lake | 21B46a | 22 | 23N | 12E | 4624 |
| Lake Cle Elum | 21B14M | 15 | 20N | 14E | 2200 |
| Lemah Creek | 21B47a | 7 | 23N | 13E | 3327 |
| Manastash | 20C1 | 24 | 17N | 16E | 3935 |
| Morse Lake | 21C17 | 6 | 16N | 11E | 5400 |
| Nanum | 20B13 | 4 | 20N | 19E | 3875 |
| Trail Creek | 20B14 | 20 | 19N | 20E | 3360 |
| Tunnel Avenue | 21B8 | 13 | 21N | 11E | 2450 |
| Van Epps Pass | 20B26a | 16 | 23N | 15E | 5925 |
| Walters Flat | 20B15 | 22 | 20N | 19E | 3360 |
| Wapitus Lake | 21B49a | 12 | 23N | 13E | 3024 |
| White Pass (East Side) | 21C28 | 2 | 13N | 11E | 4500 |
| White Pass (Leach Lake) | 21C27 | 1 | 13N | 11E | 4500 |

LOWER COLUMBIA DRAINAGE

| | | | | | |
|--------------|------|----|----|-----|------|
| Asotin Creek | 17C4 | 9 | 8N | 40E | 5700 |
| | 17C5 | 2 | 9N | 35E | 3370 |
| | 17C6 | 11 | 9N | 40E | 4030 |
| Mill Creek | 17C1 | 23 | 9N | 40E | 4400 |
| | 17C2 | 23 | 9N | 40E | 4400 |
| | 17C3 | 23 | 9N | 40E | 4400 |

Klickitat River

| | | | | | |
|-----------------|-------|----|----|-----|------|
| Satus Pass | 20D1 | 21 | 6N | 17E | 4030 |
| West Fork Cabin | 21C15 | 23 | 9N | 12E | 3000 |

White Salmon River

| | | | | | |
|--------------|-------|----|----|----|------|
| Cultus Creek | 21C12 | 35 | 7N | 8E | 4000 |
|--------------|-------|----|----|----|------|

Lewis River

| | | | | | |
|----------------|--------|----|----|----|------|
| Blue Lake | 21C22a | 19 | 9N | 8E | 4800 |
| Bob's Trail | 21C21 | 25 | 8N | 7E | 2200 |
| Calamity Ridge | 2201a | 8 | 5N | 5E | 2500 |
| Council Pass | 21C18a | 24 | 9N | 9E | 4200 |

NAME NUMBER SEC. TWP. RANGE ELEV.

Lewis River (Continued)

| | | | | | |
|-------------------|--------|----|----|-----|------|
| Olvide Meadow | 21C29a | 21 | 9N | 10E | 5600 |
| Grand Meadow | 21C25 | 28 | 8N | 9E | 3500 |
| Lone Pine Shelter | 21C26 | 8 | 9N | 7E | 3800 |
| Marble Mountain | 22C5a | 24 | 8N | 5E | 3200 |
| New Muddy River | 22C6 | 36 | 8N | 6E | 2000 |
| Oldman Pass | 21019 | 22 | 6N | 7E | 3100 |
| Plains of Abraham | 22C1a | 35 | 9N | 5E | 4100 |
| Smith Creek Road | 22C4 | 29 | 9N | 6E | 2100 |
| Spencer Meadow | 21C20a | 16 | 8N | 7E | 3400 |
| Surprise Lakes | 21C13a | 14 | 7N | 8E | 4250 |
| Table Mountain | 21C24a | 20 | 9N | 9E | 4200 |
| Timbered Peak | 21D18a | 36 | 6N | 6E | 3000 |

Cowlitz River

| | | | | | |
|------------------|-------|----|-----|-----|------|
| Cayuse Pass | 21C6 | 15 | 16N | 10E | 5300 |
| Mosquito Meadows | 21C19 | 33 | 10N | 7E | 4100 |
| Ohanapechosh | 21C32 | 28 | 15N | 10E | 2200 |
| Packwood Lake | 21C31 | 21 | 13N | 10E | 2870 |
| Pigtail Peak | 21C31 | 21 | 13N | 11E | 5900 |
| Porato Hill | 21C14 | 36 | 10N | 10E | 4500 |
| Willame Creek | 21C30 | 3 | 13N | 8E | 3250 |

PUGET SOUND DRAINAGE

| | | | | | |
|---------------------|-------|----|-----|----|------|
| Ghost Forest | 21C4 | 23 | 15N | 8E | 4550 |
| Longmire | 21C5 | 29 | 15N | 8E | 2760 |
| Paradise Park (New) | 21C35 | 13 | 15N | 8E | 5050 |
| Stem Glade | 21C1 | 13 | 15N | 8E | 5050 |

Nisqually River

| | | | | | |
|------------------------|-------|----|-----|-----|------|
| Corral Pass | 21B13 | 30 | 18N | 11E | 6000 |
| White River Campground | 21C34 | 4 | 16N | 9E | |

White River

| | | | | | |
|----------------------|---------|----|-----|-----|------|
| Airstrip | 21B24 | 18 | 20N | 11E | 1800 |
| Charley Creek | 21B25 | 27 | 21N | 8E | 1200 |
| Cougar Mountain | 21B425P | 21 | 21N | 9E | 3200 |
| Grass Mountain No. 2 | 21B27 | 14 | 20N | 8E | 2900 |
| Grass Mountain No. 3 | 21B28 | 12 | 20N | 8E | 2100 |
| Lester Creek | 21B29 | 36 | 20N | 10E | 3100 |
| Lynn Lake | 21B50 | 21 | 20N | 8E | 4000 |
| Sawmill Ridge | 21B31 | 5 | 19N | 11E | 4700 |
| Snowshoe Butte | 21B43SP | 14 | 20N | 11E | 5000 |
| Stampede Pass | 21B10 | 25 | 21N | 11E | 3000 |
| Twin Camp | 21B30 | 18 | 19N | 11E | 4100 |

Green River

| | | | | | |
|------------------|-------|----|-----|-----|------|
| City Cabin | 21B3 | 10 | 21N | 10E | 2390 |
| Mr. Gardner Aux. | 21B21 | 30 | 22N | 10E | 3300 |
| Mr. Gardner Aux. | 21B22 | 31 | 22N | 10E | 2500 |
| Mr. Lindsay | 21B16 | 31 | 22N | 9E | 2500 |
| Mt. Washington | 21B15 | 8 | 22N | 9E | 3000 |
| Rex River | 21B17 | 11 | 21N | 9E | 2400 |
| South Fork Cedar | 21B6 | 24 | 21N | 10E | 3000 |
| Tinkham Creek | 21B20 | 1 | 21N | 10E | 3400 |

Snoqualmie River

| | | | | | |
|-----------------|-------|----|-----|-----|------|
| Alpine Meadow | 21B48 | 31 | 27N | 9E | 3500 |
| Olatlie Meadows | 21B2 | 19 | 22N | 11E | 3625 |
| South Fork Tolt | 21B1B | 26 | 26N | 9E | 1900 |

Skykomish River

| | | | | | |
|----------------|-------|----|-----|-----|------|
| Lake Elizabeth | 21B19 | 33 | 26N | 10E | 2900 |
|----------------|-------|----|-----|-----|------|

NAME NUMBER SEC. TWP. RANGE ELEV.

Skagit River

| | | | | | |
|-----------------------|--------|----|-----|-----|------|
| Beaver Creek Trail | 21A4 | 35 | 33N | 12E | 2200 |
| Beaver Pass | 21A1 | 9 | 33N | 12E | 3680 |
| Brown Top | 21A28a | 26 | 40N | 12E | 6000 |
| Devils Park | 20A4 | 34 | 38N | 16E | 5900 |
| Freezeout Creek Trail | 20A1 | 14 | 40N | 14E | 3500 |
| Freezeout Meadows | 20A2 | 8 | 40N | 16E | 5000 |
| Granite Creek | 21A29 | 25 | 36N | 16E | 3500 |
| Lake Hozomeen | 21A2 | 19 | 40N | 14E | 2600 |
| Meadows Cabins | 20A8 | 29 | 36N | 14E | 1900 |
| New Hozomeen Lake | 21A30 | 19 | 40N | 14E | 2800 |
| Thunder Basin | 20A7 | 15 | 35N | 14E | 4200 |

Baker River

| | | | | | |
|---------------------|--------|----|-----|-----|------|
| Baker Pass | 21A27a | 1 | 37N | 7E | 4900 |
| Dock Butte | 21A11a | 8 | 36N | 8E | 3800 |
| Easy Pass | 21A7a | 19 | 35N | 11E | 5200 |
| Jasper Pass | 21A6a | 17 | 38N | 11E | 5400 |
| Komo Kulshan | 21A17 | 31 | 37N | 9E | 800 |
| Mountain Lake | 21A9a | 23 | 38N | 8E | 3600 |
| Mount Blum | 21A18a | 27 | 38N | 10E | 5800 |
| Rocky Creek | 21A12a | 20 | 37N | 8E | 2100 |
| Schreibers Meadow | 21A10a | 18 | 37N | 8E | 3400 |
| S. F. Thunder Creek | 21A14a | 20 | 36N | 9E | 2200 |
| Sulphur Creek | 21A13 | 22 | 37N | 8E | 1600 |
| Three Mile Creek | 21A15 | 18 | 36N | 9E | 1600 |
| Watson Lakes | 21A8 | 25 | 37N | 9E | 4500 |

Nooksack River

| | | | | | |
|----------------------|---------|------|-----|----|------|
| Bald Mountain | 21A19a | 7 | 40N | 7E | 4400 |
| Canyon | 21A20a | 20 | 40N | 8E | 5100 |
| Glacier Creek | 21A25 | 9-10 | 38N | 7E | 3700 |
| Panorama Snow | 21A26 | 17 | 39N | 9E | 4300 |
| Panorama Snow Pillow | 21A25SP | 17 | 39N | 9E | 4300 |
| Twin Lakes | 21A21a | 16 | 40N | 9E | 5200 |

OLYMPIC PENINSULA

Dungeness River

| | | | | | |
|-----------|------|---|-----|----|------|
| Deer Park | 23B4 | 1 | 28N | 5W | 5200 |
|-----------|------|---|-----|----|------|

WATER SUPPLY OUTLOOK

State of Washington
February 1, 1972

* The water supply outlook for irrigation and power for the Columbia *
* Basin in Washington and tributary areas can be considered excellent *
* for this time of year. Snow surveys made in the state and adjacent *
* areas as of the 1st of February show a snowpack that varies from *
* 3% above normal to 147% above. The situation this year is very *
* similar to what occurred last year at this time only a little bet- *
* ter. Last year chinook conditions reduced the low-elevation snow- *
* pack late in January but so far this has not occurred this year. *
* The snowpacks are generally quite dense for this time of year, as *
* they were last year, and this denseness has been a result of ex- *
* ceedingly high winds which packed the snow instead of higher temp- *
* eratures which caused this situation last year. Some rain has oc- *
* curred at higher elevations which lubricated the snowpacks and *
* caused a number of slides over the intrastate highways. On the *
* west slopes of the Cascades the snowpack ranges from 56% above nor- *
* mal on the Skagit drainage to 98% above normal on the Snoqualmie. *
* The Olympic Peninsula has a snow cover that is less but still near- *
* ly 50% greater than average. All areas in the state are expected *
* to have abundant water supplies for all purposes that will last *
* throughout the total runoff season. Not all of the main power res- *
* ervoirs have water in storage greater than normal. Much of this *
* water power has been used to generate electricity during the recent *
* cold snaps. With continued cold weather these reservoirs will be *
* utilizing even greater amounts of power but with the spring melt *
* all will fill. Some multipurpose reservoirs with restricted out- *
* flows have already been put on a draw-down cycle to handle the an- *
* ticipated spring runoff. During January the greatest runoff occur- *
* red from some low-elevation streams in the western portion of the *
* state. Considerable flooding did occur in some local areas. *

SNOW COVER

All of the watersheds in the Upper Columbia Basin have well above normal snowpacks for this time of year. The Colville River, due north of Spokane is the only area that has a snow cover that is less than 20% above normal. Most of the snow courses measured on February 1 recorded a normal April 1 snow-water equivalent or greater and some of the snow courses have hit the all-time record for this time of year. The overall situation is similar to last year at this time with a general improvement on the ground. Where last year there was considerable variability between high and low elevations and north and south aspects, the snowpack is generally uniform through the entire state this year.

RESERVOIRS

The five reservoirs in the Yakima drainage have 722,000 acre-feet in storage as of February 1 compared to 626,000 for normal. Last year at this time there were 534,000 acre-feet in these reservoirs. It is anticipated that these reservoirs will be lowered to handle the spring runoff. Franklin D. Roosevelt reservoir has 4,420,000 acre-feet in storage compared to a normal 3,812,000 acre-feet. Both Chelan and Ross reservoirs have below amounts of water in storage but are expected to fill and spill with the spring runoff.

PRECIPITATION

Fall precipitation was below normal in only two areas of the state. These were the central Washington area and the northwestern slopes of the Cascades. November through December precipitation was well above normal in all areas except in the northeastern drainage area.

SOIL MOISTURE

The ten soil moisture stations measured on February 1 indicate the soil mantle to be just about the same as occurred during the last two years with some areas showing improvement and some not quite as good. The drier soils are occurring in the areas where heavy water usage by crops occurred this last year.

STREAMFLOW

Forecasts of streamflows are not made until March 1 but indications are that above-normal runoff will occur during the spring melt. With a continued above-normal precipitation/snowfall regime the situation will improve even moreso. River flows during January were generally near normal with only a few streams reporting high water and localized flooding both west and east of the Cascades. Where streamflow has been below normal the cause has generally been cold weather.

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about February 1, 1972, as per cent of the same date in 1971 and 1970 and average of record.

| Tributary Basin | No. of | Years | 1972 Snow Water Expressed | | |
|-----------------------------|---------|---------|---------------------------|------|--------------|
| | Courses | of | as percent of | | |
| | Average | Record | 1971 | 1970 | 1953-67 Avg. |
| <u>UPPER COLUMBIA BASIN</u> | | | | | |
| Pend Oreille | 5 - 9 | 8 - 35 | 104 | 168 | 139* |
| Kettle | 12 - 14 | 6 - 32 | 101 | 157 | 126* |
| Colville | 5 | 10 - 13 | 75 | 125 | 103* |
| Spokane | 3 | 10 - 27 | 121 | 169 | 167* |
| Okanogan | 21 - 30 | 26 - 28 | 118 | 173 | 152* |
| Methow | 6 | 9 - 34 | 107 | 152 | 164* |
| Chelan | 1 | 18 | 110 | 195 | 161* |
| Entiat | 2 - 8 | 5 - 11 | 96 | 145 | 164* |
| Wenatchee | 8 - 9 | 4 - 27 | 108 | 153 | 177* |
| Yakima | 18 - 21 | 4 - 50 | 121 | 161 | 188* |
| Ahtanum | 1 | 30 | 123 | 130 | 188 |
| <u>LOWER COLUMBIA</u> | | | | | |
| Mill Creek | 2 | 17 - 18 | 181 | -- | 247* |
| Klickitat | 1 | 14 | 83 | 114 | 170* |
| White Salmon | 2 | 14 | 109 | 206 | 195* |
| Lewis | 17 - 18 | 9 - 14 | 109 | 240 | 194* |
| Cowlitz | 8 - 9 | 8 - 20 | 111 | 221 | 187* |
| <u>PUGET SOUND</u> | | | | | |
| Nisqually | 4 | 6 - 15 | 185 | 208 | 194* |
| White | 1 | 20 | 100 | 180 | 160* |
| Green | 5 - 9 | 10 - 25 | 132 | 250 | 182* |
| Snoqualmie | 1 | 22 | 121 | 197 | 198* |
| Skykomish | 1 - 2 | 4 - 27 | 111 | 170 | 175* |
| Skagit | 3 - 10 | 14 - 24 | 102 | 188 | 156* |
| Nooksack | 1 | 3 | 97 | 180 | - |
| <u>OLYMPIC PENINSULA</u> | | | | | |
| Skokomish | 3 - 4 | 8 - 14 | 92 | 92 | 140* |
| Elwha | 1 | 12 | 110 | 252 | 151* |
| Dungeness | 1 | 18 | 112 | 185 | 151* |

* Records of less than 15 years used on computation of averages

RESERVOIR STORAGE - 1000 Acre Feet

| BASIN or STREAM | RESERVOIR | USABLE ^{1/} CAPACITY | 1972 | Measured (February) | | | Normal* |
|--------------------|---------------------------|----------------------------------|--------|---------------------|--------|--|---------|
| | | | | 1971 | 1970 | | |
| <u>COLUMBIA</u> | | | | | | | |
| Spokane | Coeur d'Alene Lake | 225.1 | 147.3 | 202.5 | 161.1 | | 137.0 |
| Columbia | Franklin D. Roosevelt Lk. | 5232.0 | 4420.2 | 5065.6 | 4449.4 | | 3812.5 |
| Columbia | Banks Lake | 761.8 | 714.9 | 712.2 | 597.3 | | 494.0 |
| Okanogan | Conconully Reservoir | 13.0 | 9.1 | 5.3 | 7.0 | | 5.6 |
| Okanogan | Salmon Lake | 10.5 | 8.6 | 2.1 | 7.8 | | 8.6 |
| Chelan | Lake Chelan | 676.1 | 190.4 | 216.3 | 187.8 | | 318.4 |
| <u>YAKIMA</u> | | | | | | | |
| Yakima | Keechelus Lake | 157.8 | 137.2 | 97.3 | 50.3 | | 92.1 |
| Kachess | Kachess Lake | 239.0 | 156.5 | 175.3 | 166.9 | | 172.2 |
| Cle Elum | Lake Cle Elum | 436.9 | 277.1 | 170.1 | 155.6 | | 241.1 |
| Bumping | Bumping Lake | 33.7 | 5.0 | 5.3 | 9.1 | | 9.9 |
| Tieton | Rimrock Lake | 198.0 | 146.7 | 86.2 | 75.9 | | 111.3 |
| <u>PUGET SOUND</u> | | | | | | | |
| Skagit | Ross Reservoir | 1202.9 | 822.1 | 895.4 | 849.3 | | 956.3 |
| Skagit | Diablo Reservoir | 90.6 | 83.9 | 84.4 | 83.6 | | 85.6 |
| Skagit | Gorge Reservoir | 9.8 | 7.8 | 7.9 | 7.5 | | -- |

^{1/} Based on Active Storage

* 15-year average 1953-67

SOIL MOISTURE - February

| Drainage Basin and Station | Number | Elev. | Profile Depth | (Inches) : | | Soil Moisture Content | | |
|----------------------------------|--------|-------|------------------|------------|---------------|------------------------|------|-------|
| | | | | Total | : | (Inches) as of Feb. 1. | | |
| | | | | Capacity | : | 1972 | 1971 | 1970 |
| <u>CRAB CREEK</u> | | | | | | | | |
| Jack Woods | 18B3m | 2750 | 48 | 13.6 | | 8.0 | 8.9 | 8.3 |
| Krause | 18B4m | 2420 | 48 | 13.6 | | 5.6 | 4.9 | 7.2 |
| Sheffels | 18B5m | 2380 | 48 | 13.6 | | 7.7 | 5.7 | 6.1 |
| Sherman | 18B7m | 2440 | 48 | 13.6 | | 6.4 | 5.5 | 6.6 |
| Wheatridge | 18B6m | 2290 | 48 | 13.6 | | 8.1 | 8.9 | 8.4 |
| <u>OKANOGAN</u> | | | | | | | | |
| Salmon Meadows | 19A2M | 4500 | 48 | 5.4 | | 4.1 | 2.6 | 2.1 |
| Trout Creek | 3-M | 3600 | 48 | 7.3 | | 4.0 | 3.4* | 3.0** |
| <u>YAKIMA</u> | | | | | | | | |
| Domery Flat | 21B20m | 2200 | 48 | 6.9 | Soil moisture | | 4.9 | 5.7 |
| Lake Cle Elum | 21B14M | 2200 | 48 | 12.8 | meter inoper- | | 9.2 | 9.1 |
| <u>WALLA WALLA</u> | | | | | | | | |
| Couse | 17C3m | 3650 | 48 | 11.1 | 10.5 | | 10.6 | -- |
| Helmers | 17C2M | 4400 | 48 | 12.0 | 10.6 | | 10.9 | -- |
| <u>WENATCHEE</u> | | | | | | | | |
| Upper Wheeler | 20B7M | 4400 | 48 | 12.7 | 9.0 | | 10.3 | 6.8 |

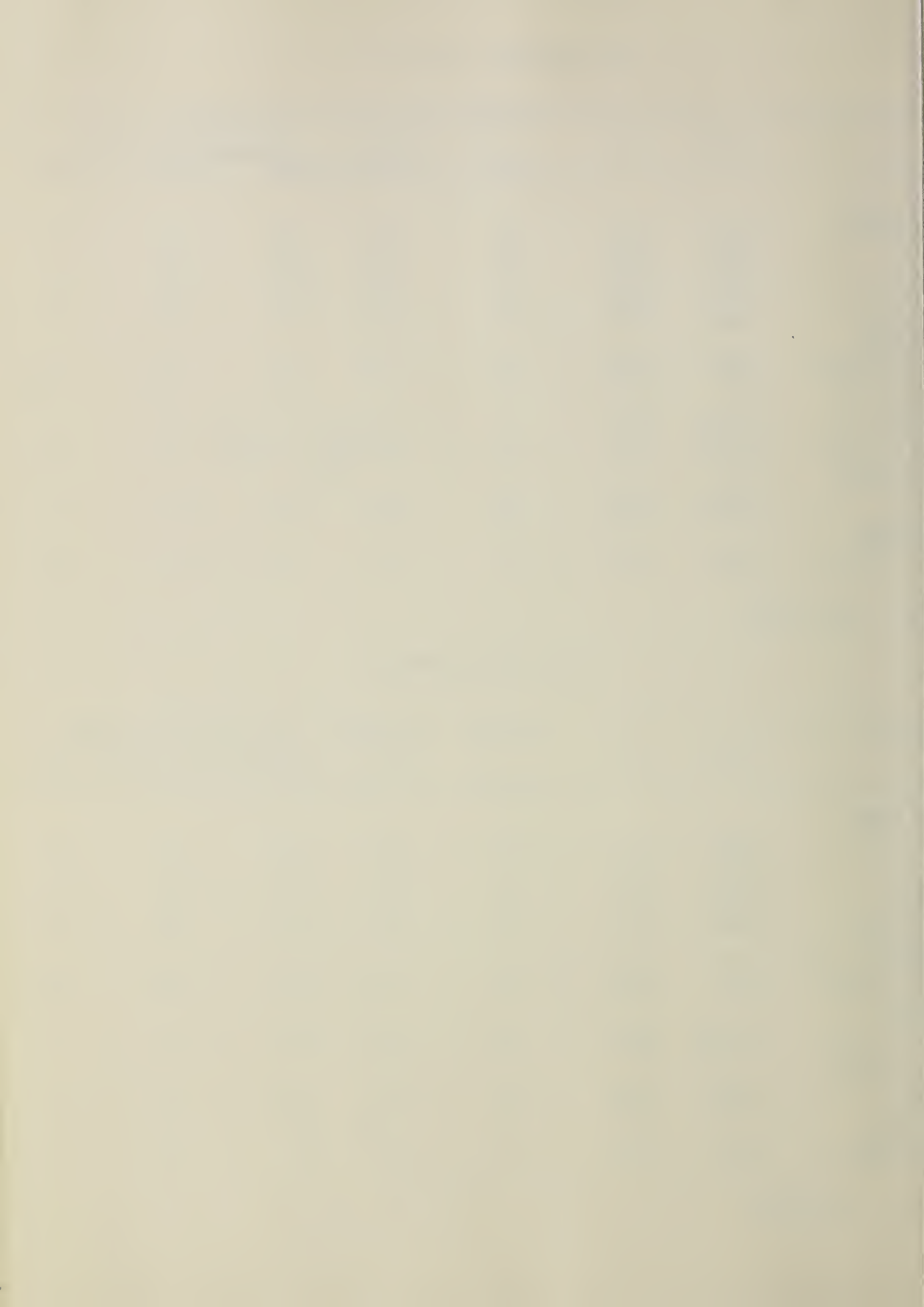
* Nov 1 measurement

** Jan 1 measurement

FALL SOIL MEASUREMENT

| Drainage and Station | Number | Elev. | Profile Depth | (Inches) : | | Soil Moisture Content | | |
|----------------------------|--------|-------|------------------|------------|---|-----------------------|------|------|
| | | | | Total | : | (Inches) as of Oct. 1 | | |
| | | | | Capacity | : | 1971 | 1970 | 1969 |
| <u>CRAB CREEK</u> | | | | | | | | |
| Jack Woods | 18B3m | 2750 | 48 | 13.6 | | 5.3 | 7.0 | 7.5 |
| Krause | 18B4m | 2420 | 48 | 13.6 | | 5.0 | 4.4 | 5.9 |
| Sheffels | 18B5m | 2380 | 48 | 13.6 | | 5.3 | 4.4 | 4.5 |
| Sherman | 18B7m | 2440 | 48 | 13.6 | | 4.0 | 3.8 | 4.2 |
| Wheatridge | 18B6m | 2290 | 48 | 13.6 | | 5.5 | 7.8 | 5.4 |
| <u>OKANOGAN</u> | | | | | | | | |
| Salmon Meadows | 19A2M | 4500 | 48 | 5.4 | | 2.7 | 1.7 | 2.7 |
| Trout Creek | 3-M | 3600 | 48 | 7.3 | | 3.3 | 3.4* | 3.8* |
| <u>YAKIMA</u> | | | | | | | | |
| Domery Flat | 21B20m | 2200 | 48 | 6.9 | | 2.1 | 2.4 | -- |
| Lake Cle Elum | 21B14M | 2200 | 48 | 12.8 | | 7.1 | 7.6 | -- |
| <u>WALLA WALLA</u> | | | | | | | | |
| Couse | 17C3m | 3650 | 48 | 11.1 | | 6.2 | 5.9 | 6.1 |
| Helmers | 17C2M | 4400 | 48 | 12.0 | | 8.2 | 7.3 | 7.1 |
| <u>WENATCHEE</u> | | | | | | | | |
| Upper Wheeler | 20B7M | 4400 | 48 | 12.7 | | 6.5 | 5.1 | 9.8 |

* Nov 1 measurement



PRECIPITATION ^{1/}

Division Averages and Departures

| Drainage Divisions | FALL | | WINTER | |
|--------------------------|-----------|--------------------|----------------|------------------------|
| | Sep - Oct | 1971 ^{2/} | Nov - Dec 1971 | Jan 1972 ^{2/} |
| | Average | Departure | Average | Departure |
| Columbia in Canada | 4.45 | +0.56 | 11.98 | +2.92 |
| Pend Oreille -Spokane | 4.63 | +0.48 | 13.99 | +1.52 |
| Northeastern Washington | 3.16 | +0.91 | 7.21 | -0.53 |
| Southeastern Washington | 3.73 | +1.08 | 9.17 | +0.75 |
| Central Washington | 4.15 | -0.29 | 25.12 | +5.43 |
| North Central Washington | 1.99 | +0.58 | 6.51 | +1.93 |
| Northwest Slope Cascades | 11.60 | -0.07 | 38.84 | +3.21 |
| Southwest Slope Cascades | 9.33 | +1.61 | 35.59 | +7.44 |

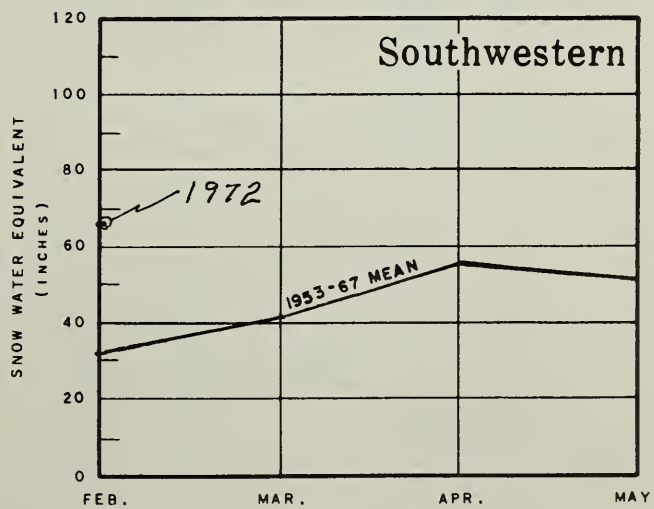
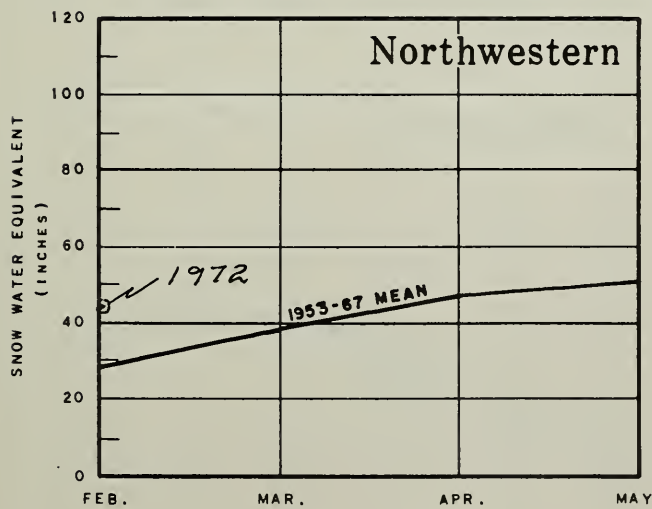
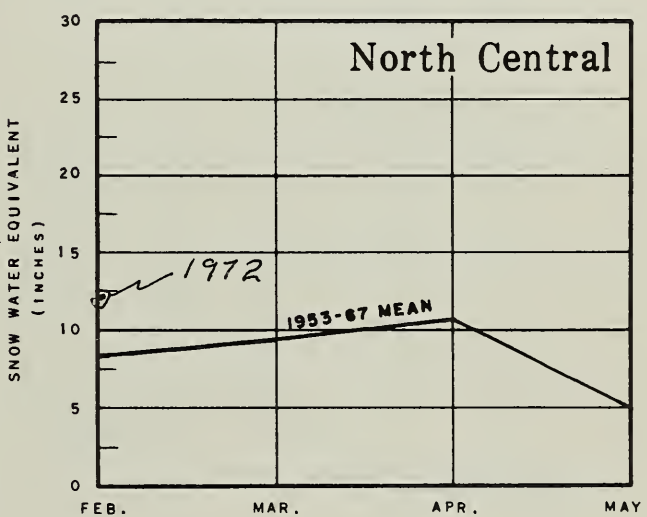
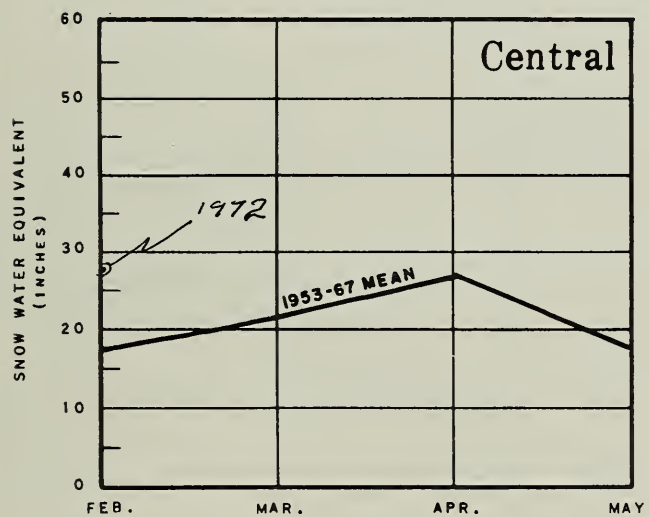
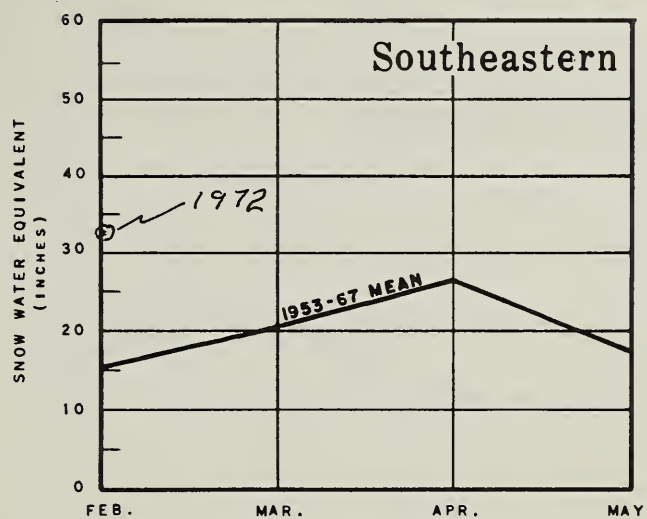
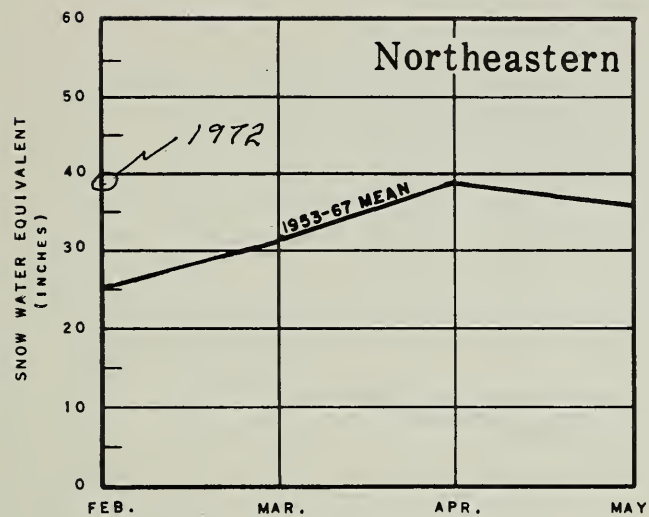
| | |
|--------------------------|--|
| Northeastern Washington | - Lower Spokane, Colville, Sanpoil and lower Kettle drainages. |
| Southeastern Washington | - Touchet, Tucannon and Palouse drainages. |
| Central Washington | - Yakima, Wenatchee and Chelan drainages. |
| North Central Washington | - Methow and Okanogan drainages. |
| Northwest Slope Cascades | - Puget Sound drainages. |
| Southwest Slope Cascades | - Lower Columbia drainages. |

^{1/} - Preliminary analysis by National Weather Service from data furnished by Meteorological Services of Canada and National Weather Service.

^{2/} - Departure from 15-year (1953-67) drainage division average.

WASHINGTON SNOW COVER

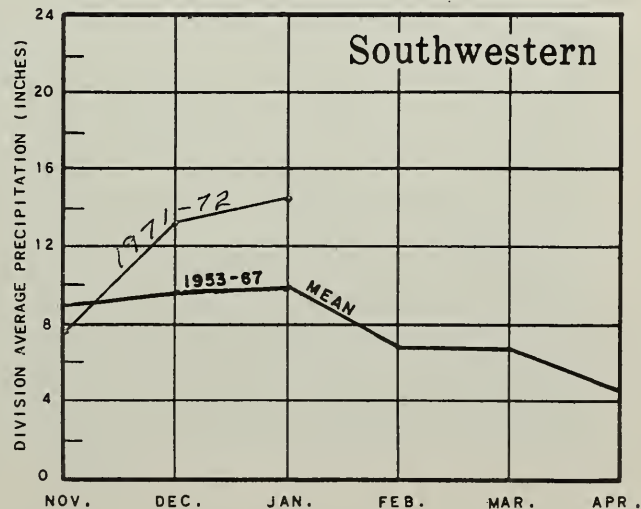
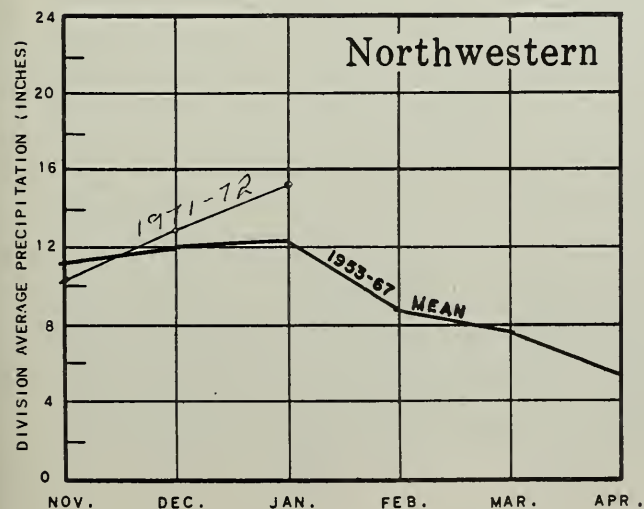
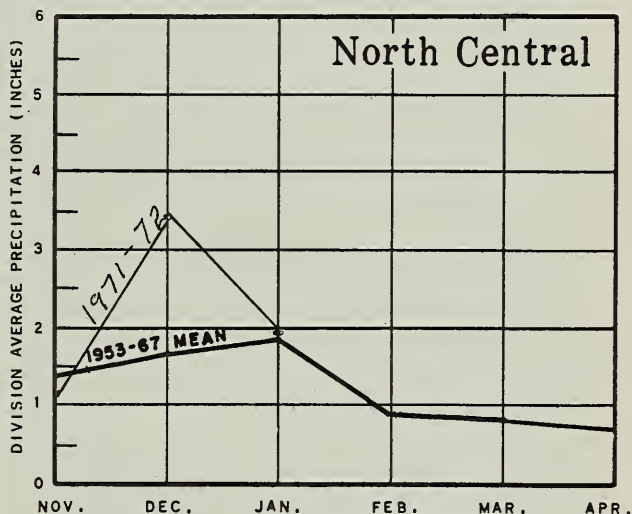
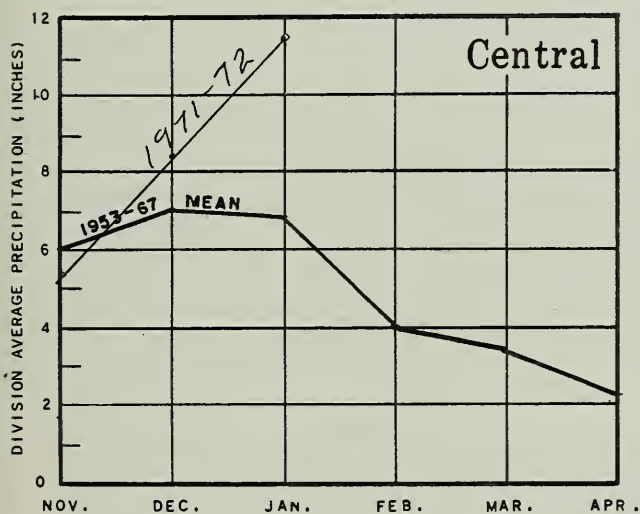
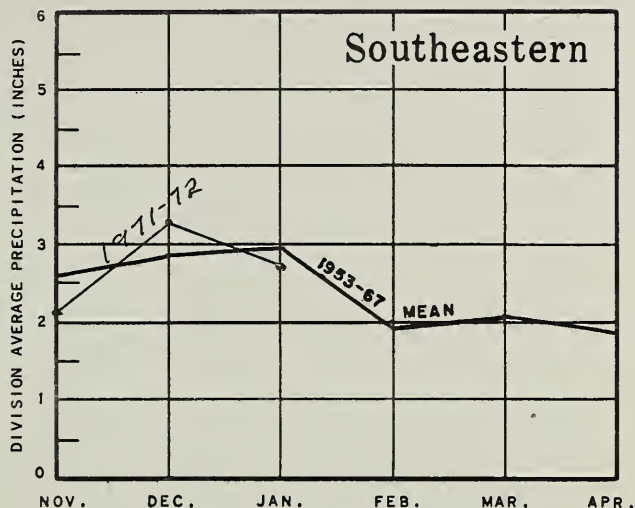
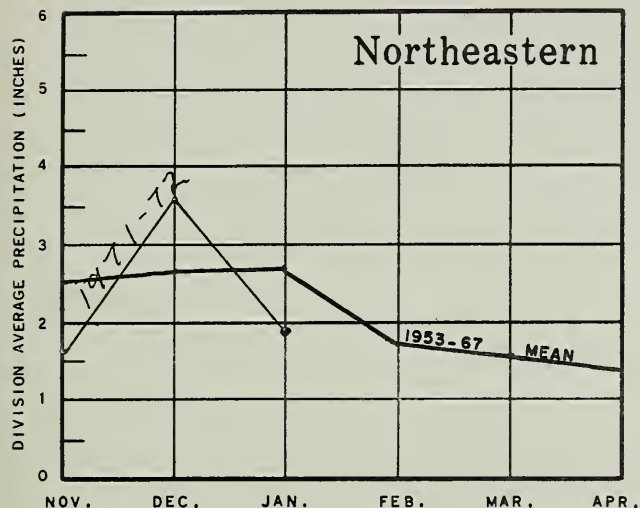
DRAINAGE AREAS



WASHINGTON VALLEY PRECIPITATION

1971-1972

DRAINAGE AREAS



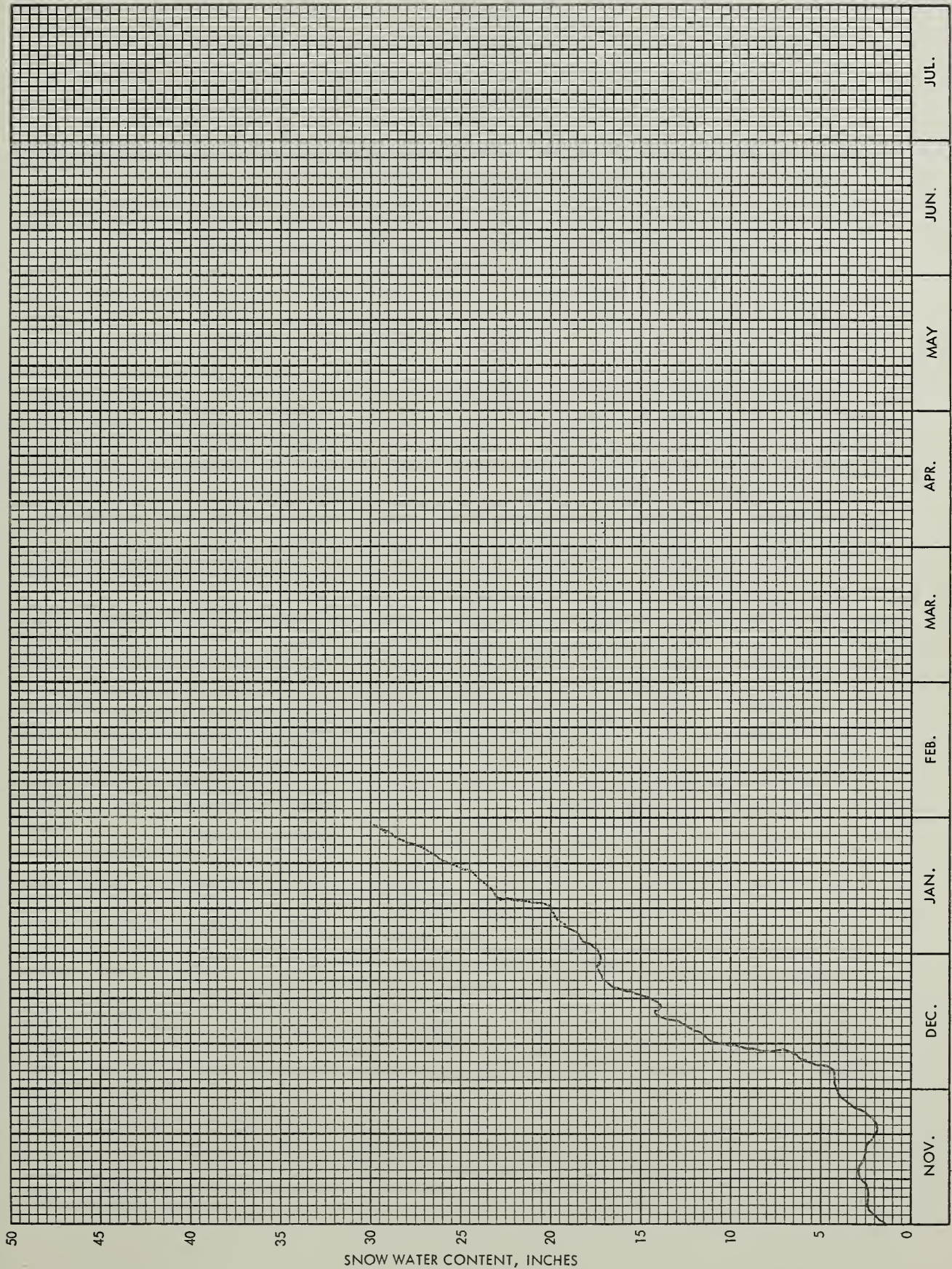
SNOW PILLOW DATA

Berne-Mill Creek

1971-72

Sec. 13 T. 26N R. 14E No. 21841SP Drainage: Wenatchee R.

Lat. 47° 45' Long. 121° 42' Elev. 3240



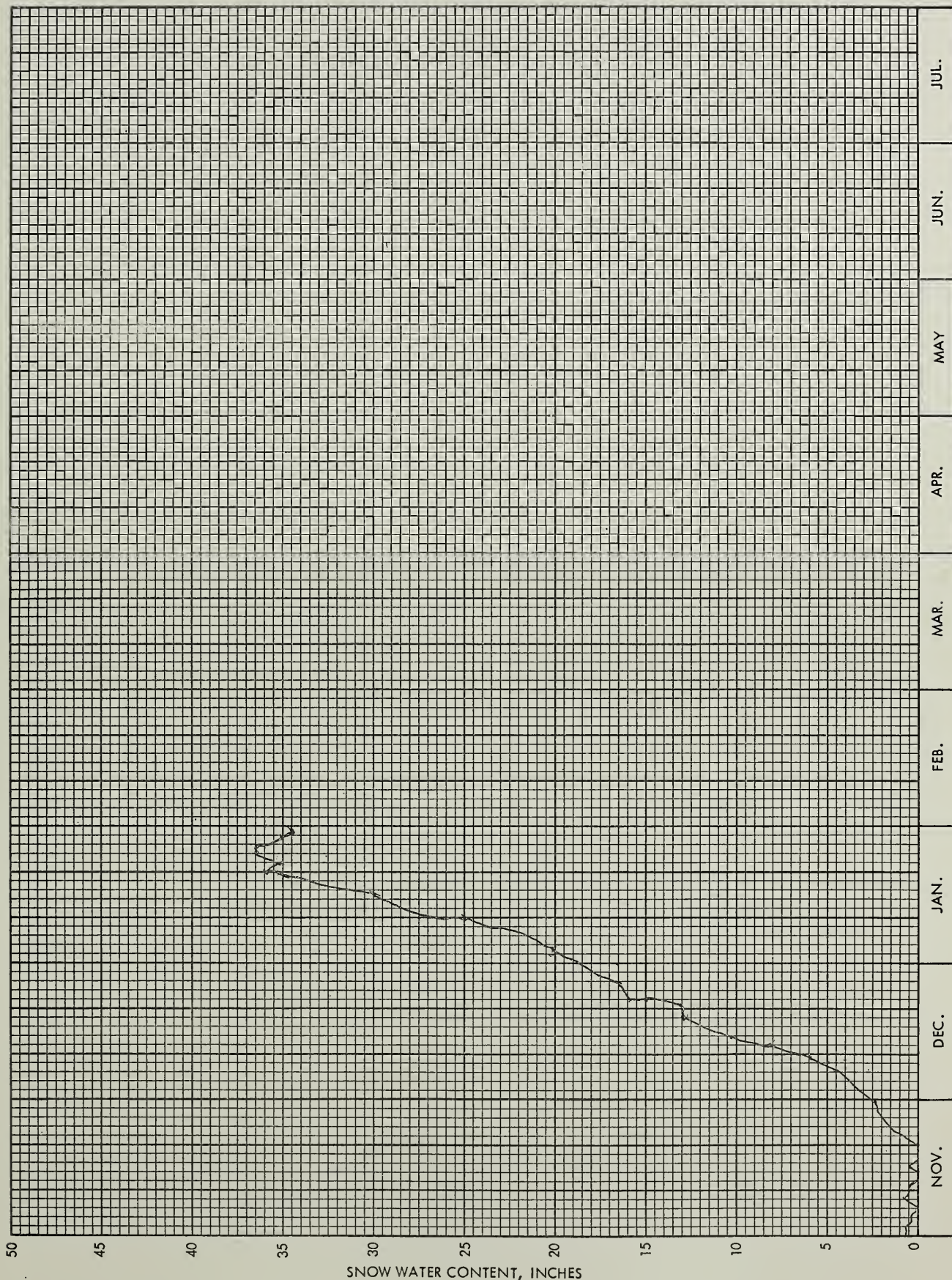
SNOW PILLOW DATA

Cougar Mountain - FS

1971 - 72

Sec. 21 T. 21N R. 9E No. 21B42SP Drainage: Green River

Lat. 47° 17' Long. 121° 40' Elev. 3200'



SNOW WATER CONTENT, INCHES

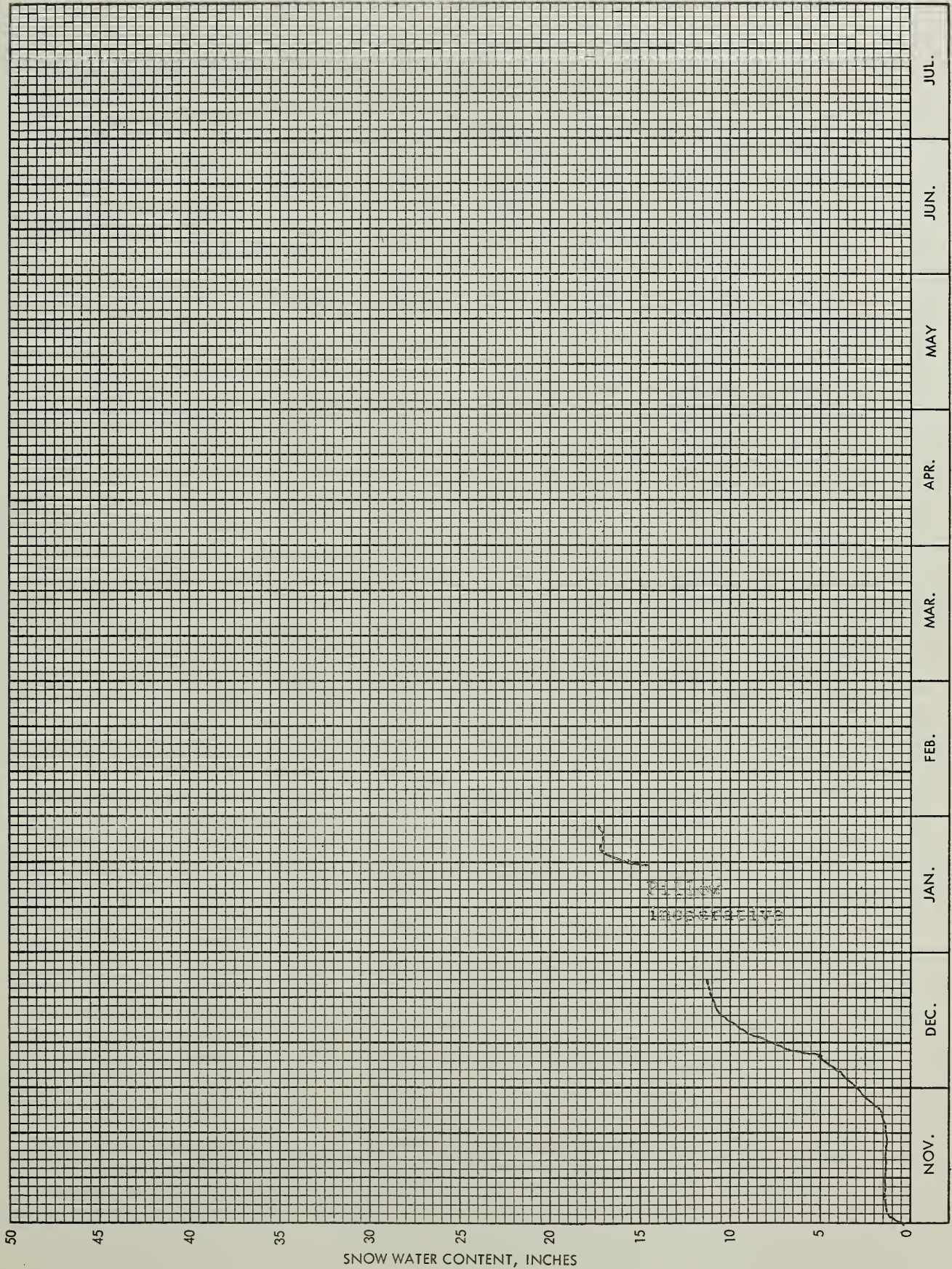
SNOW PILLOW DATA

Trough No. 2

1971-72

Sec. 10 T. 20N R. 20E No. 20225SF Drainage: Wenatchee R.

Lat. 47° 14' Long. 120° 19' Elev. 5210





SNOW DATA TO FEBRUARY 1, 1972 - APPENDIX 1

SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|-----|-----------|----------------|---------------------|------------------------|------------------------|---|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (inches) | |
| NAME | No. | Elevation | | | | Last Year | Average <input checked="" type="checkbox"/> |

U P P E R C O L U M B I A D R A I N A G E

PEND OREILLE RIVER

| | | | | | | | |
|------------------|--------|------|-------|-----|------|------|--------|
| Benton Meadow | 16A2 | 2344 | 12/30 | 18 | 3.8 | 5.9 | 3.2 |
| | | | 1/28 | 19 | 5.0 | 7.1 | 5.1 |
| Benton Spring | 16A3 | 4900 | 12/29 | 42 | 11.1 | 9.0 | 8.6 |
| | | | 2/2 | 55 | 18.0 | 15.8 | 14.0 |
| Boyer Mountain | 17A2 | 5250 | 12/28 | 53 | 14.4 | -- | -- |
| #Chewelah | 17A4 | 4925 | 1/29 | 37 | 11.0 | 14.5 | 13.2* |
| Heart Lake Trail | 14C10 | 4800 | 1/4 | 54 | 15.2 | 11.4 | -- |
| | | | 1/28 | 87 | 29.6 | 26.2 | -- |
| Hoodoo Basin | 15C10 | 6000 | 1/4 | 95 | 28.5 | 25.2 | -- |
| | | | 1/28 | 156 | 52.2 | 48.3 | -- |
| Hoodoo Creek | 15C01 | 5900 | 1/4 | 92 | 27.5 | 23.4 | -- |
| | | | 1/28 | 157 | 51.5 | 47.0 | 32.0 |
| Lookout | 15B2 | 5250 | 12/29 | 78 | 19.4 | 21.8 | 15.7 |
| | | | 1/31 | 121 | 39.3 | 36.1 | 25.0 |
| Nelson | Canada | 3050 | 11/15 | 9 | 2.7 | 0.0 | -- |
| | | | 12/15 | 34 | 5.0 | 5.0 | -- |
| | | | 1/2 | 42 | 10.2 | 8.9 | -- |
| | | | 1/14 | 53 | 13.7 | -- | -- |
| | | | 1/31 | 50 | 15.0 | 14.1 | 11.2** |
| Schweitzer Bowl | 16A6 | 4500 | 12/30 | 69 | 18.8 | 17.2 | -- |
| | | | 1/28 | 75 | 28.8 | 28.3 | -- |
| Schweitzer Ridge | 16A5 | 6100 | 12/30 | 89 | 26.7 | 28.0 | -- |
| | | | 1/28 | 116 | 40.0 | 39.7 | -- |
| Winchester Creek | 17A3 | 2970 | 12/28 | 33 | 7.4 | -- | -- |
| | | | 1/26 | 38 | 9.2 | 12.6 | 9.2* |

KETTLE RIVER

| | | | | | | | |
|---------------|--------|------|-------|----|------|------|--------|
| Barnes Creek | Canada | 5500 | 1/27 | 58 | 19.2 | 15.1 | 13.7** |
| Big White Mtn | Canada | 5500 | 1/30 | 54 | 15.4 | 15.6 | 14.0** |
| Boulder Road | 18A2 | 1450 | 10/26 | 0 | 0.0 | -- | -- |
| | | | 11/15 | 0 | 0.0 | 0.0 | -- |
| | | | 12/11 | 17 | 4.6 | 3.0 | -- |
| | | | 12/23 | 14 | 3.4 | 5.3 | -- |
| | | | 1/10 | 16 | 3.0 | 6.3 | -- |
| | | | 1/25 | 22 | 4.3 | 7.3 | -- |

Not located directly on this drainage

* Adjusted 1953-67 average

** Average for years of record



APPENDIX 2

SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|--------|-----------|----------------|---------------------|------------------------|------------------------|-----------------------|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (inches) | |
| NAME | No. | Elevation | | | | Last Year | Average ^{1/} |
| <u>KETTLE RIVER (Cont.)</u> | | | | | | | |
| Butte Creek | 18A3 | 4070 | 10/26 | 0 | 0.0 | -- | -- |
| | | | 11/15 | 4 | 0.7 | 1.0 | -- |
| | | | 12/11 | 26 | 5.1 | 3.3 | 2.9* |
| | | | 12/23 | 29 | 3.9 | 6.3 | 4.3* |
| | | | 1/10 | 27 | 7.0 | 6.7 | 5.8* |
| | | | 1/25 | 32 | 8.4 | 9.1 | 6.6* |
| Cabin Creek | 18A8 | 3170 | 10/26 | 0 | 0.0 | -- | -- |
| | | | 11/15 | 0 | 0.0 | 0.0 | -- |
| | | | 12/11 | 22 | 5.5 | 3.2 | 2.4* |
| | | | 12/23 | 25 | 4.3 | 6.0 | 4.2* |
| | | | 1/10 | 25 | 6.0 | 6.2 | 5.5* |
| | | | 1/25 | 29 | 7.2 | 8.8 | 6.0* |
| Carmi | Canada | 4100 | 1/25 | 30 | 7.6 | 6.0 | 5.4** |
| Farron | Canada | 4000 | 1/28 | 40 | 11.5 | 11.7 | 9.7** |
| Goat Creek | 18A4 | 3595 | 10/26 | 0 | 0.0 | -- | -- |
| | | | 11/15 | 0 | 0.0 | 0.5 | -- |
| | | | 12/11 | 22 | 5.0 | 2.9 | 2.1* |
| | | | 12/23 | 25 | 3.6 | 5.9 | 3.7* |
| | | | 1/10 | 24 | 5.9 | 6.0 | 4.9* |
| | | | 1/25 | 27 | 7.0 | 8.2 | 5.5* |
| Lower Trapping | Canada | 3050 | 1/30 | 28 | 6.8 | 4.0 | 4.5** |
| #Monashee Pass | Canada | 4500 | 1/27 | 43 | 13.8 | 7.5 | 9.5** |
| Old Glory Mountain | Canada | 7000 | 1/30 | 79 | 20.5 | 25.4 | 18.6** |
| Snow Caps Creek | 18A5 | 2150 | 10/26 | 0 | 0.0 | -- | -- |
| | | | 11/15 | 0 | 0.0 | 0.0 | -- |
| | | | 12/11 | 18 | 5.0 | 2.8 | -- |
| | | | 12/23 | 16 | 3.5 | 5.7 | 2.3* |
| | | | 1/10 | 18 | 4.0 | 6.0 | 3.5* |
| | | | 1/25 | 24 | 5.0 | 7.0 | 4.3* |
| Snow Caps Trail | 18A6 | 2720 | 10/26 | 0 | 0.0 | -- | -- |
| | | | 11/15 | 0 | 0.0 | 0.0 | -- |
| | | | 12/11 | 21 | 5.2 | 3.1 | 1.7* |
| | | | 12/23 | 22 | 4.1 | 5.5 | 3.0* |
| | | | 1/10 | 21 | 5.5 | 6.2 | 4.0* |
| | | | 1/25 | 26 | 6.9 | 7.8 | 4.9* |

Not located directly on this drainage

* Adjusted 1953-67 average

** Average for years of record



APPENDIX 3

SNOW

SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|--------|-----------|------------------------|---------------------|------------------------|------------------------|---------|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (inches) | |
| NAME | No. | Elevation | | | | Last Year | Average |
| KETTLE RIVER (Cont.) | | | | | | | |
| Summit G. S. | 18A7 | 4600 | 10/26 | 0 | 0.0 | -- | -- |
| | | | 11/15 | 4 | 1.1 | 1.0 | -- |
| | | | 12/11 | 16 | 4.2 | 2.2 | 3.0* |
| | | | Snow course plowed out | | | | |
| Upper Trapping Cr. | Canada | 5500 | 1/30 | 38 | 9.6 | 8.0 | 7.2** |
| COLVILLE RIVER | | | | | | | |
| Baird | 17A6 | 3215 | 1/30 | 29 | 7.2 | 4.8 | 5.9* |
| Carlson | 18A9 | 2885 | 1/29 | 16 | 3.7 | 6.0 | 4.3* |
| Chewelah | 17A4 | 4925 | 1/29 | 37 | 11.0 | 14.5 | 13.2* |
| Stranger Mountain | 17A5 | 4990 | 1/29 | 36 | 10.2 | 17.4 | 9.8* |
| Togo | 18A10 | 3370 | 1/29 | 38 | 10.8 | 14.2 | 8.6* |
| SPOKANE RIVER | | | | | | | |
| 4th of July Summit | 16B3 | 3100 | 12/30 | 38 | 9.8 | 6.0 | 3.5* |
| | | | 1/31 | 44 | 12.2 | 10.0 | 6.4* |
| #Lookout | 15B2 | 5250 | 12/29 | 78 | 19.4 | 21.8 | 15.7 |
| | | | 1/31 | 121 | 39.3 | 36.1 | 25.0 |
| Sherwin | 16C1 | 3200 | 12/29 | 49 | 11.4 | 6.8 | -- |
| | | | 1/28 | 61 | 18.1 | 11.5 | 10.4* |
| OKANOGAN RIVER | | | | | | | |
| Aberdeen Lake | Canada | 4300 | 1/31 | 33 | 6.6 | 5.0 | 5.0** |
| Blackwall Peak | Canada | 6250 | 12/20 | 74 | 21.2 | 16.2 | -- |
| | | | 2/2 | 110 | 42.0 | 36.5 | 24.6** |
| Bouleau Lake | Canada | 4500 | 1/2 | 42 | 13.8 | 4.2 | -- |
| | | | 1/26 | 55 | 15.6 | 11.0 | -- |
| Brenda Mine | Canada | 4800 | 1/26 | 52 | 15.2 | 9.5 | -- |
| Brookmere | Canada | 3200 | 1/30 | 45 | 9.6 | 10.7 | 10.7** |
| Carrs Landing Lower | Canada | 2250 | 12/31 | 17 | 3.4 | 1.2 | -- |
| | | | 1/28 | 22 | 4.8 | 3.0 | -- |
| Carrs Landing Upper | Canada | 3200 | 12/31 | 22 | 4.4 | 1.8 | -- |
| | | | 1/28 | 26 | 5.4 | 4.0 | -- |
| Clark + | 19A8a | 7000 | Late Report | | | 15.9 | -- |
| Enderby | Canada | 4300 | 1/26 | 100 | 29.1 | 29.1 | 24.3** |
| #Freezeout Meadow | 20A2 | 5000 | Avalanched out | | | 31.3 | -- |
| Hamilton Hill | Canada | 4900 | Late Report | | | 16.2 | 10.6** |
| #Harts Pass | 20A5A | 6500 | 1/28 | 134 | 44.3 | 44.6 | 28.2* |
| #Horseshoe Basin + | 19A5a | 7000 | Late Report | | | 14.1 | 9.7* |
| Isintok Lake | Canada | 6300 | 12/30 | 31 | 7.7 | 4.0 | 5.6** |
| | | | 1/30 | 43 | 12.1 | 6.7 | 5.6** |
| Lost Horse Mountain | Canada | 6300 | 1/31 | 51 | 13.2 | 9.1 | 6.4** |

Not located directly on this drainage

* Adjusted 1953-67 average

** Average for years of record

+ Snow water equivalent estimated from aerial stadia observation

☒ Average based on 1953-67 average.



APPENDIX 4

SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|--------|-----------|----------------|---------------------|------------------------|------------------------|-----------|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (inches) | |
| | | | | | | Last Year | Average ✓ |
| NAME | No. | Elevation | | | | | |
| <u>OKANOGAN RIVER (Cont.)</u> | | | | | | | |
| #Loup Loup | 19A7 | 4650 | 1/28 | 38 | 10.9 | 10.6 | 6.6* |
| McCulloch | Canada | 4200 | 12/27 | 25 | 5.0 | 3.6 | -- |
| | | | 1/29 | 32 | 7.4 | 4.9 | 4.9** |
| Missezula Mountain | Canada | 5100 | Late Report | | | 9.0 | 6.5** |
| Mission Creek | Canada | 6000 | 1/28 | 61 | 18.3 | 18.5 | 13.4** |
| Monashee Pass | Canada | 6000 | 1/27 | 43 | 13.8 | 7.5 | 9.5** |
| Mount Kobau | Canada | 6000 | 1/31 | 46 | 13.3 | 13.5 | 11.1** |
| Muckamuck + | 19A9a | 6390 | Late Report | | | 15.0 | -- |
| Mutton Creek No. 1 | 19A1 | 5700 | 1/24 | 63 | 18.7 | 14.6 | 9.7* |
| Mutton Creek No. 2 | 19A4 | 6000 | 1/24 | 57 | 16.7 | 15.0 | 10.1* |
| New Copper Mtn. | Canada | 4300 | 1/29 | 39 | 10.9 | 6.5 | 5.4** |
| New Pentiction Res. | Canada | 5225 | 2/2 | 39 | 10.6 | 7.8 | -- |
| Paysayten + | 20A28a | 4300 | Late Report | | | 17.9 | 11.6* |
| Postill Lake | Canada | 4500 | 1/31 | 33 | 8.5 | 7.3 | 5.8** |
| Rusty Creek | 19A3 | 4000 | 1/25 | 35 | 8.0 | 8.8 | 5.6 |
| Salmon Meadows | 19A2 | 4500 | 1/24 | 43 | 12.1 | 9.8 | 7.3* |
| Silver Star Mtn. | Canada | 6050 | 12/31 | 66 | 19.8 | 16.0 | -- |
| | | | 1/29 | 81 | 27.5 | 22.6 | 18.8** |
| Starvation Mtn. | 19A10a | 6750 | Late Report | | | 15.9 | -- |
| Summerland Reservoir | Canada | 4200 | 12/31 | 32 | 7.8 | 4.6 | -- |
| | | | 1/29 | 43 | 12.1 | 8.9 | 7.5** |
| Touts Coulee | 19A6 | 2845 | 1/31 | 26 | 5.4 | 5.2 | 3.1* |
| Trout Creek | Canada | 4700 | 2/3 | 40 | 11.5 | 7.2 | 7.1** |
| Vaseux Creek | Canada | 4050 | 1/29 | 32 | 8.2 | 6.5 | -- |
| White Rocks Mtn. | Canada | 6000 | 1/28 | 66 | 21.8 | 21.4 | -- |

METHOW RIVER

| | | | | | | | |
|---------------------|--------|------|-------------|-----|------|------|-------|
| Billy Goat Pass + | 21A10a | 6409 | Late Report | | | 32.6 | 21.5* |
| Dollar Watch + | 20A29a | 7000 | Late Report | | | 25.9 | 18.4* |
| Harts Pass | 20A5A | 6500 | 1/28 | 134 | 44.3 | 44.6 | 28.2* |
| Horseshoe Basin + | 19A5A | 7000 | Late Report | | | 14.1 | 9.7* |
| Loup Loup | 19A7 | 4650 | 1/28 | 38 | 10.9 | 10.6 | 6.6* |
| #Mutton Creek No. 1 | 19A1 | 5700 | 1/24 | 63 | 18.7 | 14.6 | 9.7* |
| #Mutton Creek No. 2 | 19A4 | 6000 | 1/24 | 57 | 16.7 | 15.0 | 10.1* |
| #Rusty Creek | 19A3 | 4000 | 1/25 | 35 | 8.0 | 8.8 | 5.6 |
| #Salmon Meadows | 19A2 | 4500 | 1/24 | 43 | 12.1 | 9.8 | 7.3* |
| #War Creek Pass + | 20A31a | 6500 | Late Report | | | 37.1 | -- |

CHELAN LAKE BASIN

| | | | | | | | |
|------------------|--------|------|-------------|--|--|------|-------|
| Cloudy Pass + | 20A22a | 6500 | Late Report | | | 31.4 | 29.4* |
| Greenwood Flat + | 20A25a | 3540 | Late Report | | | 27.5 | 21.6* |
| Little Meadows + | 20A24a | 5275 | Late Report | | | 30.1 | 29.9* |

Not located directly on this drainage

* Adjusted 1953-67 average

** Average for years of record

+ Snow water equivalent estimated from aerial stadia observation



SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|-----|-----------|----------------|---------------------|------------------------|------------------------|---|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (inches) | |
| NAME | No. | Elevation | | | | Last Year | Average <input checked="" type="checkbox"/> |

CHELAN LAKE BASIN (Cont.)

| | | | | | | | |
|-------------------|--------|------|-------------|-----|------|------|-------|
| Lyman Lake + | 20A23A | 5900 | Late Report | | | 47.7 | 38.9* |
| Park Creek Flat + | 20A13a | 2220 | Late Report | | | 28.8 | 27.8* |
| Park Creek Ridge | 20A12A | 4600 | Late Report | | | 38.7 | 35.3* |
| Petersons + | 20A16a | 3730 | Late Report | | | 30.7 | 26.2* |
| Rainy Pass | 20A0 | 3730 | 1/27 | 134 | 43.8 | 39.8 | 27.5* |
| Safety Harbor + | 20A30A | 6300 | Late Report | | | 28.5 | -- |
| War Creek Pass + | 20A31a | 6500 | Late Report | | | 37.1 | -- |

ENTIAT RIVER

| | | | | | | | |
|----------------------|--------|------|--------------|-----|------|------|-------|
| Brief | 20B19 | 1600 | 1/26 | 39 | 11.4 | 12.0 | 6.3* |
| Entiat Meadows + | 20A33a | 4800 | 1/28 | 152 | 48.3 | 48.0 | -- |
| Entiat River Trail + | 20A34a | 3150 | 1/28 | 84 | 26.7 | 27.4 | -- |
| Fox Camp + | 20A36a | 6510 | 1/28 | 156 | 49.6 | 50.6 | -- |
| Pope Ridge | 20B20 | 4300 | 1/27 | 71 | 22.7 | 21.8 | 14.5* |
| Pugh Ridge + | 20A32a | 6400 | 1/28 | 117 | 37.2 | 34.9 | -- |
| Shady Pass | 20A37 | 6200 | Not measured | | | 28.2 | -- |
| Snow Brushy + | 20A35a | 3850 | 1/28 | 109 | 34.7 | 43.2 | -- |
| Tommy Creek + | 20B21a | 5300 | 1/28 | 92 | 29.3 | 32.0 | -- |

WENATCHEE RIVER

| | | | | | | | |
|----------------------|---------|------|-------|-----|------|------|-------|
| Berne-Mill Creek | 21B23 | 2925 | 11/15 | 9 | 2.7 | -- | 1.2* |
| | | | 11/29 | 25 | 4.9 | 7.0 | 4.8* |
| | | | 12/15 | 66 | 13.8 | 13.7 | 7.3* |
| | | | 12/29 | 63 | 16.7 | 20.8 | 11.4* |
| | | | 1/14 | 79 | 28.1 | 25.6 | 17.1* |
| | | | 1/28 | 101 | 36.2 | 34.5 | 20.7* |
| Berne-Mill Creek New | 20B41SP | 3240 | 11/29 | 21 | 3.8 | 6.2 | -- |
| | | | 12/29 | 60 | 17.9 | 21.0 | 10.9* |
| | | | 1/28 | 75 | 28.6 | 33.6 | 19.6* |
| Blewett Pass No. 2 | 20B02 | 4270 | 12/29 | 46 | 13.5 | 8.1 | 6.3 |
| | | | 1/27 | 82 | 27.7 | 20.3 | 11.2 |
| Chiwaukum G. S. | 20B16 | 1810 | 11/29 | 14 | 2.0 | 3.2 | 1.7* |
| | | | 12/15 | 45 | 7.6 | 5.2 | 2.7* |
| | | | 12/29 | 41 | 10.4 | 9.6 | 4.6* |
| | | | 1/14 | 51 | 14.0 | 13.0 | 7.5* |
| | | | 1/27 | 55 | 16.6 | 15.2 | 9.0* |

* Adjusted 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation



APPENDIX 6

SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|-----|-----------|----------------|---------------------|------------------------|------------------------|---|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (Inches) | |
| NAME | No. | Elevation | | | | Last Year | Average <input checked="" type="checkbox"/> |

WENATCHEE RIVER (Cont.)

| | | | | | | | |
|----------------------|---------|------|-------------|-----|------|------|-------|
| Lake Wenatchee | 20B5 | 1970 | 11/29 | 11 | 1.7 | 4.1 | -- |
| | | | 12/15 | 46 | 8.4 | 6.6 | 3.7* |
| | | | 12/29 | 43 | 11.3 | 11.4 | 5.8* |
| | | | 1/14 | 60 | 15.3 | 15.0 | 9.6* |
| | | | 1/27 | 65 | 20.4 | 18.1 | 12.0* |
| Leavenworth R. S. | 20B17 | 1127 | 11/2 | 0 | 0.0 | 0.0 | -- |
| | | | 11/10 | 0 | 0.0 | 0.0 | -- |
| | | | 11/29 | 4 | 2.0 | 2.0 | -- |
| | | | 12/13 | 28 | 4.9 | 4.6 | -- |
| | | | 12/27 | 29 | 6.9 | 5.6 | 2.9* |
| | | | 1/11 | 35 | 7.8 | 8.0 | 4.0* |
| #Lyman Lake + | 20A23A | 5900 | 1/28 | 35 | 10.9 | 8.6 | 5.0* |
| | | | Late Report | | | 47.7 | 38.9* |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Merritt | 20B18 | 2140 | 11/29 | 11 | 1.8 | 5.2 | 2.9* |
| | | | 12/15 | 56 | 9.8 | 10.2 | 4.6* |
| | | | 12/29 | 45 | 12.0 | 16.4 | 8.0* |
| | | | 1/14 | 57 | 17.8 | 20.2 | 12.0* |
| | | | 1/27 | 70 | 23.0 | 23.6 | 14.1* |
| Stevens Pass | 21B1 | 4070 | 10/28 | 11 | 2.4 | 2.5 | -- |
| | | | 11/15 | 21 | 6.3 | 3.8 | -- |
| | | | 11/29 | 45 | 10.6 | 12.1 | 10.0* |
| | | | 12/15 | 98 | 21.2 | 23.4 | 14.7* |
| | | | 12/29 | 103 | 30.3 | 33.5 | 20.8 |
| | | | 1/14 | 139 | 46.0 | 41.7 | 26.6 |
| Stevens Pass S. Shed | 21B45 | 3700 | 1/27 | 162 | 60.1 | 52.5 | 34.4 |
| | | | 11/15 | 12 | 3.1 | -- | -- |
| | | | 11/29 | 29 | 5.6 | 8.6 | -- |
| | | | 12/15 | 72 | 14.6 | 17.5 | -- |
| | | | 12/29 | 72 | 21.1 | 25.3 | -- |
| Trough No. 2 | 20B25SP | 5310 | 1/14 | 102 | 32.9 | 30.2 | -- |
| | | | 1/27 | 120 | 42.7 | 40.1 | -- |

Not located directly on this drainage

* Adjusted 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|--------|-----------|----------------|---------------------|------------------------|------------------------|---|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (inches) | |
| NAME | No. | Elevation | | | | Last Year | Average <input checked="" type="checkbox"/> |
| <u>COLOCKUM CREEK</u> | | | | | | | |
| Colockum Creek Upper | 20B22 | 5300 | 1/28 | 55 | 19.2 | 14.8 | -- |
| Colockum Creek Lower | 20B23 | 4300 | 1/28 | 45 | 14.5 | 10.5 | -- |
| <u>SQUILCHUCK CREEK</u> | | | | | | | |
| Beehive Springs | 20B3 | 4400 | 1/27 | 41 | 12.5 | 10.2 | 5.1* |
| Scout-A-Vista | 20B4 | 3400 | 1/27 | 40 | 12.2 | 9.2 | 5.4* |
| <u>STEMILT CREEK</u> | | | | | | | |
| Jump-Off | 20B8 | 4450 | 1/27 | 50 | 15.0 | 11.4 | 4.8* |
| Stemilt Slide | 20B6 | 5000 | 1/26 | 71 | 20.1 | 16.3 | 10.0* |
| Upper Wheeler | 20B7 | 4400 | 1/26 | 56 | 17.1 | 12.3 | 6.5* |
| <u>YAKIMA RIVER</u> | | | | | | | |
| #Ahtanum R. S. | 21C11 | 3100 | 12/27 | 29 | 6.2 | 5.3 | 3.2* |
| | | | 1/27 | 38 | 10.7 | 8.7 | 5.7 |
| #Blewett Pass No. 2 | 20B2 | 4270 | 12/29 | 46 | 13.5 | 8.1 | 6.3 |
| | | | 1/27 | 82 | 27.7 | 20.3 | 11.2 |
| Bumping Lake (Old) | 21C8 | 3450 | 11/30 | 17 | 3.2 | 3.9 | 3.8* |
| | | | 12/16 | 34 | 5.8 | 9.0 | 4.2* |
| | | | 1/3 | 34 | 9.2 | 14.1 | 6.6 |
| | | | 1/14 | 49 | 14.6 | 18.9 | 10.6* |
| | | | 1/31 | 57 | 18.9 | 21.5 | 12.3 |
| Bumping Lake (New) | 21C36 | 3400 | 11/30 | 19 | 3.7 | 4.8 | -- |
| | | | 12/16 | 38 | 8.0 | 9.6 | -- |
| | | | 1/3 | 41 | 11.8 | 16.6 | -- |
| | | | 1/14 | 57 | 18.4 | 22.1 | 12.4* |
| | | | 1/31 | 67 | 24.9 | 26.0 | 14.9* |
| #Cayuse Pass | 21C6 | 5300 | 12/27 | 163 | 51.2 | 51.5 | 34.3* |
| | | | 1/27 | 255 | 89.8 | 89.6 | 56.3* |
| Colockum Pass | 20B9 | 5370 | 2/1 | 72 | 19.7 | 17.8 | 10.5* |
| Cooke Creek | 20B10 | 4123 | 2/1 | 44 | 13.0 | 8.8 | 5.0* |
| Grouse Camp | 20B11 | 5385 | 1/31 | 70 | 22.2 | 17.4 | 12.2* |
| High Creek | 20B12 | 2930 | 1/31 | 44 | 13.1 | 8.0 | 4.6* |
| Joe Lake + | 21B46a | 4624 | 1/27 | 219 ^{2/} | 70.0 ^{2/} | -- | -- |

Not located directly on this drainage

* Adjusted 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation

^{2/} Aerial marker over-topped--mound seen

SNOW

SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|-----|-----------|----------------|---------------------|------------------------|------------------------|---------|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (inches) | |
| NAME | NO. | Elevation | | | | Last Year | Average |

YAKIMA RIVER (Cont.)

| | | | | | | | |
|----------------------|--------|------|--------------|-----|------|------|-------|
| Lake Cle Elum | 21B12 | 2200 | 11/3 | 7 | 1.9 | -- | -- |
| | | | 11/15 | 0 | 0.0 | -- | -- |
| | | | 11/30 | 0 | 0.0 | 3.0 | 1.2* |
| | | | 12/15 | 40 | 6.4 | 4.7 | 1.7* |
| | | | 1/2 | 31 | 7.6 | 8.3 | 3.9* |
| | | | 1/17 | 47 | 14.5 | 8.7 | 5.9* |
| | | | 2/1 | 52 | 18.4 | 10.9 | 7.8 |
| Lemah Creek + | 21B47a | 3327 | 1/27 | 150 | 48.0 | 41.0 | -- |
| Manashtash | 20C1 | 3935 | 2/2 | 32 | 8.8 | 6.7 | 3.4* |
| Morse Lake | 21C17 | 5400 | 1/31 | 175 | 63.3 | -- | 39.7* |
| Nanum | 20B13 | 3875 | 1/31 | 50 | 15.0 | 11.2 | 6.9* |
| #Olallie Meadows | 21B2 | 3625 | 1/30 | 146 | 59.7 | 49.4 | 30.2* |
| #Satus Pass | 20D1 | 4030 | 1/27 | 50 | 13.8 | 16.6 | 8.1* |
| #Stampede Pass | 21B10 | 3000 | 12/2 | 32 | 7.2 | -- | 7.4* |
| | | | 12/17 | 84 | 22.8 | -- | 10.8* |
| | | | 1/2 | 87 | 16.6 | 19.0 | 16.9* |
| | | | 1/18 | 154 | 38.6 | 26.3 | 21.4* |
| | | | 1/31 | 159 | 50.0 | 27.8 | 28.8 |
| Trail Creek | 20B14 | 3360 | 2/1 | 30 | 8.9 | 5.5 | -- |
| Tunnel Avenue | 21B8 | 2450 | 11/1 | 8 | 1.8 | -- | -- |
| | | | 11/15 | 0 | 0.0 | -- | -- |
| | | | 11/30 | 12 | 2.8 | 4.2 | 3.3* |
| | | | 12/17 | 40 | 11.3 | 12.6 | 5.5* |
| | | | 12/31 | 50 | 13.5 | 17.4 | 8.6 |
| | | | 1/13 | 72 | 20.4 | 18.2 | 13.1 |
| | | | 1/29 | 79 | 27.9 | 26.0 | 17.0 |
| Van Epps Pass + | 20B26a | 5925 | 1/27 | 192 | 61.4 | 54.6 | -- |
| Walters Flat | 20B15 | 3360 | 1/31 | 45 | 13.8 | 9.0 | 5.9* |
| Waptus Lake + | 21B49a | 3024 | 1/27 | 168 | 53.8 | 43.8 | -- |
| White Pass (E. Side) | 21C28 | 4500 | 12/1 | 22 | 5.1 | 6.9 | -- |
| | | | 12/15 | 53 | 11.8 | 9.9 | -- |
| | | | 12/30 | 57 | 17.3 | 15.4 | 11.1* |
| | | | Not measured | | | 20.4 | 13.7* |
| | | | 1/25 | 112 | 40.9 | 29.9 | 16.7* |
| White Pass (L. Lake) | 21C27 | 4500 | 12/28 | 66 | 18.9 | 12.7 | 13.3* |
| | | | 1/27 | 132 | 46.9 | 33.1 | 20.6* |

Not located directly on this drainage

* Adjusted 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation

^{1/} Average based on 1953-67 average.

SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|-----|-----------|----------------|---------------------|------------------------|------------------------|-----------|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (inches) | |
| NAME | No. | Elevation | | | | Last Year | Average ✓ |

AHTANUM CREEK

| | | | | | | | |
|---------------|-------|------|-------|----|------|-----|------|
| Ahtanum R. S. | 21C11 | 3100 | 12/27 | 29 | 6.2 | 5.3 | 3.2* |
| | | | 1/27 | 38 | 10.7 | 8.7 | 5.7 |

LOWER COLUMBIA DRAINAGEASOTIN CREEK

| | | | | | | | |
|----------------|------|------|------|----|------|------|----|
| Spruce Springs | 17C4 | 5700 | 1/27 | 80 | 27.6 | 21.9 | -- |
|----------------|------|------|------|----|------|------|----|

MILL CREEK

| | | | | | | | |
|----------------|------|------|------|----|------|------|------|
| Homestead | 17C1 | 4030 | 1/26 | 44 | 14.4 | 7.5 | 5.5* |
| Martin Springs | 17C2 | 4400 | 1/26 | 58 | 19.9 | 11.4 | 8.4* |

KLICKITAT RIVER

| | | | | | | | |
|------------|------|------|------|----|------|------|------|
| Satus Pass | 20D1 | 4030 | 1/27 | 50 | 13.8 | 16.6 | 8.1* |
|------------|------|------|------|----|------|------|------|

WHITE SALMON RIVER

| | | | | | | | |
|----------------|--------|------|-------|-----|------|------|-------|
| Cultus Creek | 21C12 | 4000 | 12/27 | 110 | 29.7 | 32.7 | 15.4* |
| | | | 1/27 | 152 | 54.4 | 53.4 | 29.4* |
| Surprise Lakes | 21C13A | 4250 | 12/27 | 118 | 35.0 | 33.3 | 18.5* |
| | | | 1/27 | 178 | 66.8 | 57.8 | 32.7* |

WIND RIVER

| | | | | | | | |
|--------------|-------|------|-------|----|------|------|-------|
| Old Man Pass | 21D19 | 3100 | 12/28 | 54 | 12.9 | 15.9 | 4.1* |
| | | | 1/28 | 83 | 26.8 | 29.2 | 12.5* |

LEWIS RIVER

| | | | | | | | |
|------------------|--------|------|-------|-----|------|------|-------|
| Blue Lake + | 21C22a | 4800 | 12/27 | 170 | 51.0 | 57.6 | 30.1* |
| | | | 1/27 | 250 | 92.5 | 85.0 | 56.0* |
| Bob's Trail | 21C21 | 2200 | 12/27 | 54 | 13.0 | 12.9 | 6.3* |
| | | | 1/28 | 79 | 26.7 | 22.3 | 9.7* |
| Calamity Ridge + | 22D1a | 2500 | 12/28 | 52 | 12.5 | 7.8 | -- |
| | | | 1/28 | 60 | 20.4 | 12.5 | -- |
| Council Pass + | 21C18a | 4200 | 12/27 | 98 | 28.4 | 29.7 | 18.4* |
| | | | 1/27 | 156 | 56.2 | 50.2 | 27.4* |

Not located directly on this drainage

* Adjusted 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation

APPENDIX 10

SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|-----|-----------|----------------|---------------------|------------------------|------------------------|-------------------|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (inches) | |
| NAME | No. | Elevation | | | | Last Year | Average $\sqrt{}$ |

LEWIS RIVER (Cont.)

| | | | | | | | |
|---------------------|--------|------|-------|-----|------|------|-------|
| #Cultus Creek | 21C12 | 4000 | 12/27 | 110 | 29.7 | 32.7 | 15.4* |
| | | | 1/27 | 152 | 54.4 | 53.4 | 29.4* |
| Divide Meadow + | 21C29a | 5600 | 12/27 | 104 | 33.3 | 35.8 | 24.7* |
| | | | 1/27 | 193 | 71.4 | 57.7 | 39.5* |
| Grand Meadow | 21C25 | 3500 | 12/27 | 73 | 19.1 | 16.2 | 9.7* |
| | | | 1/27 | 109 | 37.1 | 30.4 | 16.9* |
| Lone Pine Shelter | 21C26 | 3800 | 12/28 | 108 | 30.0 | 30.7 | 17.7* |
| | | | 1/28 | 135 | 49.9 | 49.7 | 28.8* |
| Marble Mountain + | 22C5a | 3200 | 12/27 | 95 | 26.6 | 20.7 | 10.5* |
| | | | 1/27 | 136 | 57.1 | 49.4 | 24.4* |
| #Mosquito Meadows | 21C19 | 4100 | 12/28 | 106 | 30.6 | 32.6 | 19.2* |
| | | | 1/28 | 144 | 51.9 | 52.6 | 31.8* |
| New Muddy River | 22C6 | 2200 | 12/28 | 46 | 13.0 | 12.4 | 5.8* |
| | | | 1/28 | 62 | 21.6 | 16.0 | 9.9* |
| Old Man Pass | 21D19 | 3100 | 12/28 | 54 | 12.9 | 15.9 | 4.1* |
| | | | 1/28 | 83 | 26.8 | 29.2 | 12.5* |
| Plains of Abraham + | 22C1a | 4400 | 12/27 | 166 | 49.8 | 51.2 | 22.1* |
| | | | 1/27 | 186 | 70.7 | 68.4 | 39.0* |
| Smith Creek Road | 22C4 | 2100 | 12/28 | 66 | 19.6 | 20.3 | 6.5* |
| | | | 1/28 | 80 | 29.0 | 28.8 | 11.9* |
| Spencer Meadow + | 21C20a | 3400 | 12/28 | 86 | 20.6 | 20.5 | 7.8* |
| | | | 1/28 | 98 | 34.3 | 35.5 | 14.3* |
| Surprise Lakes | 21C13A | 4250 | 12/27 | 118 | 35.0 | 33.3 | 18.5* |
| | | | 1/27 | 178 | 66.8 | 57.8 | 32.7* |
| Table Mountain + | 21C24a | 4200 | 12/27 | 108 | 31.3 | 34.2 | 21.1* |
| | | | 1/27 | 160 | 59.2 | 57.0 | 32.1* |
| Timbered Peak + | 21D18a | 3000 | 12/28 | 80 | 19.2 | 15.6 | 7.6* |
| | | | 1/28 | 76 | 25.8 | 26.2 | 12.5* |

COWLITZ RIVER

| | | | | | | | |
|---------------------|-------|------|-------|-----|------|------|-------|
| Cayuse Pass | 21C6 | 5300 | 12/27 | 163 | 51.2 | 51.5 | 34.3* |
| | | | 1/27 | 255 | 89.8 | 89.6 | 56.3* |
| Mosquito Meadows | 21C19 | 4100 | 12/28 | 106 | 30.6 | 32.6 | 19.2* |
| | | | 1/28 | 144 | 51.9 | 52.6 | 31.8* |
| Ohanapecosh | 21C32 | 2200 | 12/28 | 42 | 11.0 | 7.9 | 4.2* |
| | | | 1/28 | 76 | 23.9 | 27.5 | 13.7* |
| Packwood Lake | 21C31 | 2870 | 12/27 | 44 | 11.2 | 7.7 | 4.0* |
| | | | 1/27 | 82 | 26.8 | 20.1 | 8.6* |
| Pigtail Peak | 21C33 | 5900 | 12/28 | 116 | 37.2 | 27.8 | 26.0* |
| | | | 1/27 | 214 | 76.5 | 60.3 | 40.9* |
| Plains of Abraham + | 22C1a | 4400 | 1/27 | 186 | 70.7 | -- | 39.0* |

Not located directly on this drainage

* Adjusted 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|-----|-----------|----------------|---------------------|------------------------|------------------------|-----------|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (inches) | |
| NAME | No. | Elevation | | | | Last Year | Average ✓ |

COWLITZ RIVER (Cont.)

| | | | | | | | |
|-----------------------|-------|------|--------------|-----|------|------|-------|
| Potato Hill | 21C14 | 4500 | 12/27 | 82 | 22.7 | 21.3 | -- |
| | | | 1/28 | 127 | 45.6 | 38.3 | 20.8* |
| #White Pass (E. Side) | 21C28 | 4500 | 12/1 | 22 | 5.1 | 6.9 | -- |
| | | | 12/15 | 53 | 11.8 | 9.9 | 8.5* |
| | | | 12/30 | 57 | 17.3 | 15.4 | 11.1* |
| | | | Not Measured | | | 20.4 | 13.7* |
| | | | 1/25 | 112 | 40.9 | 29.9 | 16.7* |
| #White Pass (L. Lake) | 21C27 | 4500 | 12/28 | 66 | 18.9 | 12.7 | 13.3* |
| | | | 1/27 | 132 | 46.9 | 33.1 | 20.6* |
| Willame Creek | 21C30 | 3250 | 12/27 | 78 | 22.0 | 17.2 | 9.6* |
| | | | 1/27 | 132 | 41.8 | 38.4 | 21.4* |

PUGET SOUND DRAINAGE

NISQUALLY RIVER

| | | | | | | | |
|-------------------|-------|------|-------|-----|------|------|-------|
| Ghost Forest | 21C4 | 4550 | 12/27 | 103 | 31.5 | 16.0 | 13.1* |
| | | | 1/28 | 171 | 60.0 | 54.3 | 30.7* |
| Longmire | 21C3 | 2760 | 12/27 | 40 | 11.8 | 4.7 | 2.2* |
| | | | 1/28 | 74 | 23.8 | 21.2 | 7.3* |
| New Paradise Park | 21C35 | 5400 | 12/27 | 135 | 46.6 | 32.6 | 22.2* |
| | | | 1/31 | 222 | 85.8 | 70.2 | 46.1* |
| Stem Glade | 21C1 | 5050 | 12/27 | 137 | 40.7 | 37.3 | 24.8* |
| | | | 1/31 | 225 | 84.9 | 71.1 | 47.1* |

WHITE RIVER

| | | | | | | | |
|--------------|------|------|-------|-----|------|------|-------|
| #Cayuse Pass | 21C6 | 5300 | 12/27 | 163 | 51.2 | 51.5 | 34.3* |
| | | | 1/27 | 255 | 89.8 | 89.6 | 56.3* |

GREEN RIVER

| | | | | | | | |
|-----------------|---------|------|-------|----|------|------|----|
| Airstrip | 21B24 | 1800 | 11/30 | 0 | 0.0 | -- | -- |
| | | | 12/30 | 22 | 6.4 | 7.0 | -- |
| | | | 1/28 | 25 | 10.1 | 6.6 | -- |
| Charley Creek | 21B25 | 1200 | 11/30 | 0 | 0.0 | -- | -- |
| | | | 12/30 | 12 | 4.2 | 4.0 | -- |
| | | | 1/28 | 9 | 2.2 | 0.4 | -- |
| Cougar Mountain | 21B42SP | 3200 | 12/27 | 61 | 14.8 | -- | -- |
| | | | 1/30 | 85 | 31.2 | 23.8 | -- |

Not located directly on this drainage

* Adjusted 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW

| SNOW | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|---------|-----------|----------------|---------------------|------------------------|------------------------|-----------------------|
| DRAINAGE BASIN and/or SNOW COURSE | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (inches) | |
| NAME | No. | Elevation | | | | Last Year | Average ^{1/} |
| <u>GREEN RIVER (Cont.)</u> | | | | | | | |
| Grass Mountain #2 | 21B27 | 2900 | 11/30 | 6 | 2.0 | -- | 2.7* |
| | | | 12/30 | 56 | 17.0 | 13.3 | 6.0* |
| | | | 1/28 | 85 | 31.1 | 29.2 | 13.6* |
| Grass Mountain #3 | 21B28 | 2100 | 11/30 | 0 | 0.0 | -- | -- |
| | | | 12/30 | 30 | 9.8 | 7.8 | -- |
| | | | 1/28 | 45 | 15.0 | 11.0 | -- |
| Lester Creek | 21B29 | 3100 | 11/30 | 16 | 4.2 | -- | 3.5* |
| | | | 12/30 | 59 | 18.4 | 11.2 | 9.8* |
| | | | 1/28 | 90 | 31.8 | 24.4 | 16.3* |
| Lynn Lake | 21B50 | 4000 | 11/30 | 10 | 2.5 | -- | -- |
| | | | 12/30 | 68 | 23.5 | 9.3 | -- |
| | | | 1/28 | 93 | 43.2 | 32.0 | -- |
| Sawmill Ridge | 21B31 | 4700 | 11/30 | 27 | 7.2 | -- | 8.0* |
| | | | 12/30 | 75 | 24.0 | 17.8 | 12.0* |
| | | | 1/28 | 128 | 49.6 | 41.4 | 27.8* |
| Snowshoe Butte | 21B43SP | 5000 | 12/27 | 99 | 31.4 | 20.6 | -- |
| | | | 1/30 | 183 | 72.4 | -- | -- |
| Stampede Pass | 21B10 | 3000 | 12/2 | 32 | 7.2 | -- | 7.4* |
| | | | 12/17 | 84 | 22.8 | -- | 10.8* |
| | | | 1/2 | 87 | 16.6 | 19.0 | 16.9* |
| | | | 1/18 | 154 | 38.6 | 26.3 | 21.4* |
| | | | 1/31 | 159 | 50.0 | 27.8 | 28.8 |
| Twin Camp | 21B30 | 4100 | 11/30 | 27 | 7.2 | -- | 5.3* |
| | | | 12/30 | 56 | 17.5 | 13.0 | 10.8* |
| | | | 1/28 | 80 | 30.0 | 26.8 | 19.3* |
| <u>SNOQUALMIE RIVER</u> | | | | | | | |
| #Olallie Meadows | 21B2 | 3625 | 1/30 | 146 | 59.7 | 49.4 | 30.2* |
| <u>SKYKOMISH RIVER</u> | | | | | | | |
| #Stevens Pass | 21B1 | 4070 | 10/28 | 11 | 2.4 | 2.5 | -- |
| | | | 11/15 | 21 | 6.3 | 3.8 | -- |
| | | | 11/29 | 45 | 10.6 | 12.1 | 10.0* |
| | | | 12/15 | 98 | 21.2 | 23.4 | 14.7* |
| | | | 12/29 | 103 | 30.3 | 33.5 | 20.8 |
| | | | 1/14 | 139 | 46.0 | 41.7 | 26.6 |
| | | | 1/27 | 162 | 60.1 | 52.5 | 34.4 |
| #Stevens Pass S. Shed | 21B45 | 4070 | 11/15 | 12 | 3.1 | -- | -- |
| | | | 11/29 | 29 | 5.6 | 8.6 | -- |
| | | | 12/15 | 72 | 14.6 | 17.5 | -- |
| | | | 12/29 | 72 | 21.1 | 25.3 | -- |
| | | | 1/14 | 102 | 32.9 | 30.2 | -- |
| | | | 1/27 | 120 | 42.7 | 40.1 | -- |

Not located directly on this drainage

* Adjusted 1953-67 average

^{1/} Average based on 1953-67 average.



SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|-----------------------------------|-----|-----------|----------------|---------------------|------------------------|------------------------|-----------------------|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (Inches) | |
| NAME | No. | Elevation | | | | Last Year | Average ^{1/} |

SKAGIT RIVER

| | | | | | | | |
|---------------------|--------|------|----------------|-----|------|------|--------|
| Beaver Creek Trail | 21A4 | 2200 | 1/29 | 55 | 16.0 | 22.2 | -- |
| Beaver Pass | 21A1 | 3680 | 1/29 | 100 | 34.6 | 36.3 | -- |
| Brown Top Ridge + | 21A28a | 6000 | Not Measured | | | 60.2 | -- |
| #Cloudy Pass + | 20A22a | 6500 | Late Report | | | 31.4 | 29.4* |
| Devils Park | 20A4 | 5900 | 1/28 | 138 | 45.9 | 41.4 | 30.2* |
| Freezeout Cr. Trail | 20A1 | 3500 | 1/28 | 59 | 18.2 | 17.9 | -- |
| Freezeout Meadow | 20A2 | 5000 | Avalanched out | | | 31.3 | -- |
| Granite Creek | 21A29A | 3500 | Not Measured | | | 21.2 | -- |
| #Harts Pass | 20A5A | 6500 | 1/28 | 134 | 44.3 | 44.6 | 28.2 |
| Klesilkwa | Canada | 3700 | Late Report | | | 17.4 | 10.5** |
| Lake Hozomeen | 21A2 | 2600 | 1/28 | 46 | 12.5 | 13.2 | -- |
| #Lyman Lake | 20A23A | 5900 | Late Report | | | 47.7 | 38.9* |
| Meadow Cabins | 20A8 | 1900 | 1/27 | 48 | 13.0 | 11.0 | -- |
| New Hozomeen Lake | 21A30 | 2800 | 1/28 | 58 | 16.0 | 17.7 | -- |
| New Tashme | Canada | 2500 | 2/1 | 60 | 20.0 | 15.1 | 8.2** |
| #Rainy Pass | 20A9 | 4780 | 1/27 | 134 | 43.8 | 39.8 | 27.5 |
| Thunder Basin | 20A7 | 4200 | 1/27 | 89 | 27.4 | 23.3 | -- |

BAKER RIVER

| | | | | | | | |
|-------------------|--------|------|--------------|-----|------|------|-------|
| Baker Pass + | 21A27a | 4900 | Not Measured | | | -- | -- |
| Dock Butte + | 21A11A | 3800 | 12/18 | 127 | 38.1 | 23.5 | -- |
| | | | 1/3 | 130 | 45.5 | 33.6 | -- |
| | | | 1/27 | 185 | 70.3 | 77.8 | 46.8* |
| Easy Pass + | 21A7A | 5200 | 12/18 | 110 | 33.0 | 22.5 | -- |
| | | | 1/3 | 116 | 40.6 | 36.0 | -- |
| | | | 1/27 | 191 | 72.6 | -- | 59.0* |
| Jasper Pass + | 21A6A | 5400 | 12/18 | 165 | 49.5 | 36.0 | -- |
| | | | 1/3 | 164 | 57.4 | 50.4 | -- |
| | | | 1/27 | 235 | 89.3 | 99.0 | 68.5* |
| Marten Lake | 21A9A | 3600 | 1/3 | 163 | 57.0 | 36.0 | -- |
| | | | 1/27 | 216 | 82.1 | -- | 56.4* |
| Mt. Blum + | 21A18a | 5800 | 12/18 | 117 | 35.1 | 16.0 | -- |
| | | | 1/3 | 119 | 41.6 | 27.0 | -- |
| | | | 1/27 | 144 | 54.7 | 53.6 | 46.5* |
| #Panorama New | 21A26 | 4300 | 1/14 | 148 | 53.7 | 54.3 | -- |
| | | | 2/1 | 169 | 71.3 | 73.3 | -- |
| Rocky Creek | 21A12A | 2100 | 12/18 | 68 | 20.4 | 11.8 | -- |
| | | | 1/3 | 75 | 26.2 | 22.5 | -- |
| | | | 1/27 | 117 | 44.5 | 53.1 | 19.6* |
| Schreibers Meadow | 21A10A | 3400 | 12/18 | 100 | 30.0 | 22.0 | -- |
| | | | 1/3 | 118 | 41.3 | 35.1 | -- |
| | | | 1/27 | 148 | 56.2 | 68.4 | 42.5* |

Not located directly on this drainage

** Average for years of record

* Adjusted 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation

^{1/} Average based on 1953-67 average.

SNOW

| DRAINAGE BASIN and/or SNOW COURSE | | | THIS YEAR | | | PAST RECORD | |
|--|--------|-----------|----------------|---------------------|------------------------|------------------------|-----------|
| | | | Date of Survey | Snow Depth (Inches) | Water Content (Inches) | Water Content (inches) | |
| NAME | No. | Elevation | | | | Last Year | Average ✓ |
| <u>BAKER RIVER (Cont.)</u> | | | | | | | |
| S. F. Thunder Cr. + | 21A14A | 2200 | 1/3 | 40 | 14.0 | 9.9 | -- |
| | | | 1/27 | 60 | 22.8 | 21.2 | 4.6* |
| Watson Lakes + | 21A8A | 4500 | 12/18 | 118 | 35.4 | 22.5 | -- |
| | | | 1/3 | 134 | 46.9 | 34.8 | -- |
| | | | 1/27 | 180 | 68.4 | -- | 46.0* |
| <u>NOOKSACK RIVER</u> | | | | | | | |
| | | | 12/2 | 16 | 4.1 | 4.9 | -- |
| Glacier Creek | 21A23 | 3700 | 1/3 | 56 | 15.6 | 10.3 | -- |
| | | | 2/3 | 88 | 32.5 | -- | -- |
| Panorama New | 21A26 | 4300 | 1/14 | 148 | 53.7 | 54.3 | -- |
| | | | 2/1 | 169 | 71.3 | 73.3 | -- |
| <u>O L Y M P I C P E N I N S U L A</u> | | | | | | | |
| <u>DUNGENESS RIVER</u> | | | | | | | |
| Deer Park | 23B4 | 5200 | 1/28 | 77 | 24.6 | 21.9 | 16.3* |
| <u>MORSE CREEK</u> | | | | | | | |
| Cox Valley | 23B14 | 4500 | 1/31 | 136 | 47.6 | 42.7 | -- |
| <u>ELWHA RIVER</u> | | | | | | | |
| Hurricane | 23B3 | 4500 | 1/30 | 85 | 26.5 | 24.0 | 17.5* |
| <u>SKYKOMISH RIVER</u> | | | | | | | |
| Black & White | 23B7 | 4200 | 12/27 | 89 | 24.2 | 29.8 | -- |
| | | | 1/27 | 128 | 40.5 | 46.5 | 29.0* |
| Black & White Lakes | 23B6 | 4700 | 12/27 | 115 | 37.6 | 43.0 | -- |
| | | | 1/27 | 160 | 61.4 | 65.0 | 41.5* |
| Four Streams | 23B10 | 3000 | 12/27 | 91 | 24.3 | 28.1 | -- |
| | | | 1/27 | 106 | 33.2 | 41.1 | -- |
| Home Sweet Home | 23B5 | 5200 | 12/27 | 151 | 48.0 | 52.7 | -- |
| | | | 1/27 | 194 | 74.0 | 74.0 | 54.8* |

* Adjusted 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation

✓ Average based on 1953-67 average.



Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Department of Lands, Forests and Water Resources,
Water Resources Service, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
Corps of Engineers
U. S. Department of Agriculture
Forest Service
U. S. Department of Commerce
NOAA, National Weather Service
U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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mining and industry

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with the Snow Survey"*